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ACUTE AND CHRONIC BACILLARY DYSENTERY AND CHRONIC ULCERATIVE COLITIS

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During the past two decades there has occurred an increasing interest in the subject of the infectious diarrheas, particularly bacillary dysentery and chronic ulcerative colitis. It is our purpose to present the newer and poorly understood features of acute bacillary dysentery and to establish a relationship between it and chronic ulcerative colitis.

RISING INCIDENCE OF ACUTE BACILLARY DYSENTERY

In 1933, we directed attention to the inadequacy of available data on the prevalence of acute bacillary dysentery in the United States.[1] In 15 states it was not even a reportable disease. This condition was subsequently corrected through the cooperation of public health officials. We also pointed out new and atypical clinical forms of the disease and described a characteristic three stage progression of intestinal pathological change readily demonstrable at sigmoidoscopy. Due largely to the work of Boyd,[2] a more accurate classification of dysentery strains by serologic methods became available. There followed a rapidly rising incidence of reported acute bacillary dysentery that was assumed by many to be due largely to better recognition and reporting of the disease. Two decades have passed, and we must now revert to our original contention that there is an actual rising incidence of the disease. This is shown clearly in the accompanying graph (page 1070). It will be noted that, after reaching a peak of 38,313 cases in 1944, there was a gradual recession to approximately 17,000 cases in 1947 that was followed by a sharp secondary rise to 32,425 cases in 1951, the last year of available public health figures. It must also be remembered that the reported incidence of acute bacillary dysentery is but a fraction of the actual incidence because of failure to recognize the disease, inadequate study, and poor reporting. We wish to again call attention to the parallel rise in the unclassified dysenteries. The increase can no longer be attributed to better clinical recognition and reporting because these have been more or less stabilized for the past decade. Moreover, there appears to be no relationship to returning Korean War veterans. Our purpose in stressing the rising incidence of acute bacillary dysentery is to correlate it with other data indicating a probable relationship to chronic ulcerative colitis. The latter also appears to be on the increase, but precise information as to its numerical prevalence and to the existence of chronic ulcerative colitis in endemic or epidemic dysenteric areas is not available. It will remain so until our improvement in the diagnosis of chronic ulcerative colitis parallels that of other well-defined disease entities. Sole dependence on roentgenographic findings will lead to failure since defects of mucosal pattern, luminal stenosis, and rigid "stove pipe" colons are relatively late manifestations. Sigmoidoscopic findings, on the other hand, are manifested early in the disease. Edema and hyperemia of the mucosa, superficial erosions, and, above all, a purulent cellular structure of the aspirated mucosal exudate are early signs of chronic ulcerative colitis in a patient with long-standing bloody diarrhea.

PITFALLS IN CLINICAL DIAGNOSIS

The typical case of acute bacillary dysentery is readily diagnosed by the observant family physician and confirmed by culture of the intestinal discharges. Bloody diarrhea, abdominal cramps, and fever are unmistakable. But for every patient with these classic symptoms and signs, there are many more without them. This is certainly true of the disease as it has been encountered in the United States since 1932. During our studies of the Jersey City epidemic at the Medical Center in 1934,[3] sigmoidoscopic examination revealed the characteristic three stage progression of intestinal lesions, namely diffuse hyperemia of the mucosa with punctate follicular hyperplasia, punctate follicular necrosis, and discrete or confluent ulceration on the first, second, and third days, respectively, of the disease. Infants might die during stage

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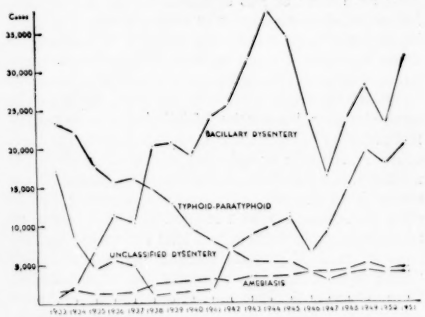
1. Felsen, J.: The Problem of Bacillary Dysentery, Am. J. Trop. Med. **13**: 333 (July) 1933.
2. Boyd, J. S. K.: A Review of Dysentery Bacilli of India, with Special Reference to Certain Recently Described Types, J. Roy. Army M. Corps **66**: 1 (Jan.) 1936.
3. Felsen, J.; Rundlett, E. V.; Sullivan, J., and Gorenberg, H.: Atypical Flexner Dysentery, J. A. M. A. **103**: 1055 (Oct. 6) 1934.

1 or 2, while some adults had few or no symptoms even in stage 3. This was determined by examining all contacts regardless of the presence or absence of symptoms. Cultures proved positive for Shigella dysenteriae, and there was a rising serologic titer, positive phage, and purulent cellular structure of the mucosal exudate. Seven atypical clinical forms were classified as the afebrile, asymptomatic, constipated, meningitic, pneumonic, appendicular, and agranulocytoid. The potential hazards offered by these previously unrecognized cases were apparent. They were sometimes more responsible for spread of the disease than patients who were acutely ill and confined to bed. The lesson to be learned from these observations was that, in dealing with acute bacillary dysentery, every contact must be cultured if the disease is to be effectively controlled. Periodic mass surveys in endemic or epidemic areas would be a progressive public health measure. It was also evident that, clinically, acute bacillary dysentery should be regarded as a systemic disease with focal intestinal manifestations, since the extraenteric symptoms and signs often overshadowed the diarrhea, especially at the onset and most infective stage of the disease.



Incidence of bacillary dysentery, typhoid and paratyphoid, unclassified dysentery, and amebiasis from 1933 to 1951. Note concomitant rise in unclassified and bacillary dysentery in 1949.

The sigmoidoscopic picture as described above is diagnostic of acute bacillary dysentery. The failure to institute such an examination is generally due to fear of perforating the bowel, lack of familiarity with interpretation of the pathological changes of the intestine, or unwillingness on the part of the patient. These are not serious drawbacks, and they can readily be overcome by appropriate educational measures. We teach our residents to handle the sigmoidoscope as an artist does his brush, to remove the obturator as soon as the instrument is in the ampulla, then to proceed by direct vision, and, if he must use force, to do so only in removing the scope—a purely facetious statement for psychological effect. The danger of perforating the bowel is negligible in the hands of an experienced examiner. If a one-half inch (1.27 cm.) sigmoidoscope, a ×10 magnifying telescope, and a heavy-walled capillary pipette for aspiration of the mucosal exudate are used, the entire procedure lasts only a few minutes. The mucosa and lymph nodes are examined for the characteristic changes. A few drops of the mucosal exudate are then aspirated, and part is used for culture by spraying on a quadrant culture dish containing four differential mediums.[4] The other part is examined on a slide in order to determine the characteristic purulent cellular structure.

INADEQUACY OF BACTERIOLOGICAL STUDIES

Bacteriological studies are usually inadequate because of procrastination on the part of the physician or patient. When a local laboratory is not readily available, the state public health laboratory is no further than the mailbox. The feces may be mixed with formaldehyde to a concentration of 1:10,000, or with 30% glycerin. Specimens may be shipped air mail. Such studies are important not only because they protect the community but also because they furnish accurate data for clarifying our understanding of the chronic forms of the disease. It may be in one of these very patients in whom chronic ulcerative colitis or ileitis subsequently develops within a year. Cultures for Sh. dysenteriae usually become negative after 7 to 10 days in the average case of acute bacillary dysentery so that, if the chronic phase has developed, bacteriological search for specific primary enteric pathogens is futile in most instances. This explains the absence of positive cultures for Sh. dysenteriae in the majority of cases of chronic ulcerative colitis. Convalescent carriers are sometimes encountered, but the carrier state usually does not last more than a month, very rarely for a year. It is more important to establish the initial diagnosis and culture with adequate follow-up than to rely solely on recovery of the dysentery organism a year later when chronic ulcerative colitis is present.

INTESTINAL LESIONS

The stereotyped textbook picture of the intestinal lesions presented to medical students three decades ago is rarely seen in the United States. For every patient in whom the colon is almost completely denuded of mucosa with massive hemorrhage, there are perhaps 20 in whom the lesser lesions described above are found. This change in the concept of the pathological changes in acute bacillary dysentery may possibly be due to lessened susceptibility of the host or lowered virulence of the organism. We suspect, however, that the three stage progression of disease process also occurred prior to 1933 but that it was never observed due to the omission of sigmoidoscopic examinations in the living patient or perfunctory study of the bowel at necropsy. We teach our residents to examine opened intestines at necropsy carefully by reflected and transmitted light from a light box. This simple method has yielded a wealth of interesting data previously overlooked.

IMPORTANCE OF FOLLOW-UP STUDIES

Every patient with infectious diarrhea should be reexamined by sigmoidoscope at three month intervals for one year. Fortunately, in most cases intestinal lesions are easily discernible in the distal colon. Rare skip or proximal lesions can usually be detected by roentgenography. The chronic or persistent intestinal changes may be

4. Felsen, J.: A Divided Culture Plate, Am. J. Clin. Path. **19**: 289 (March) 1949.

present even in patients who have few complaints, such as occasional diarrheal movements specked with blood often erroneously attributed to hemorrhoids. Intestinal bleeding (bright red blood) is an important sign in many serious conditions of the digestive tract, and even in the presence of hemorrhoids no conclusions should be drawn without visual inspection of the bowel above.

ANTIBIOTICS VERSUS SULFONAMIDES

Neither antibiotics nor sulfonamides are of prophylactic value in bacillary dysentery, and they should not be used for this purpose since they tend to favor the development of mutants or resistant strains and adversely influence vitamin synthesis if used over a long period of time. For curative therapy, a combination of sulfathiazole or sulfadiazine and succinylsulfathiazole (Sulfasuxidine) or phthalysulfathiazole (Sulfathalidine) is effective. The table shows the range of usefulness of the antibiotics. Oxytetracycline (Terramycin), chloramphenicol (Chloromycetin), and possibly chlortetracycline (aureomycin) appear to be most effective for the strains usually encountered. If uncertainty exists, in vitro sensitivity tests should be carried out against the particular dysentery organism involved. Recent studies in Korea indicate the failure of sulfadiazine in Flexner infections, chiefly 3 and 4.[5] The antibiotics have proved effective in sulfonamide-resistant cases of acute bacillary dysentery, but we are also beginning to encounter antibiotic-resistant strains of B. dysenteriae. This merely reflects a normal biological response on the part of the dysentery organism. The same phenomenon has occurred in staphylococcal infections due to the indiscriminate and prolonged use of penicillin.[6] Allergic manifestations may occur after the use of either sulfonamides or antibiotics, and renal complications may follow the use of the absorbable sulfonamides. Chloramphenicol is still a vauable antibiotic in intestinal infections caused by gram-negative organisms in spite of rare instances of granulocytopenia or agranulocytosis produced by it.

CHRONIC BACILLARY DYSENTERY

Patients who do not recover from an attack of acute bacillary dysentery usually exhibit intestinal lesions that are considered characteristic of chronic ulcerative colitis. Adequate interval observations have revealed that these merely represent a perpetuation of the lesions produced during the acute specific phase with a superimposed nonspecific infection. This subject is still controversial, although there appears to be a general agreement that some, but not all, cases are due to bacillary dysentery. Many other theories as to etiology [7] have been offered; this is due at least in part to the fact that positive cultures or a definite history of acute bacillary dysentery are obtained only in a limited number of cases of chronic ulcerative colitis. The relative paucity of carrier states in bacillary dysentery and the many cases undiagnosed because of the occurrence of atypical clinical forms should adequately explain the failures to associate chronic ulcerative colitis with a previous attack of acute bacillary dysentery. Under carefully controlled conditions, such as in the Jersey City epidemic of 1934,[8] there was not the slighest doubt of the antecedent history or diagnosis. Of an original group of 210 patients hospitalized at the Medical Center, follow-up studies of 122 showed that in 10.7% chronic ulcerative colitis or distal ileitis developed at the end of 9 to 12 months. These findings have been corroborated elsewhere by other investigators.[9] The amazing fact is that, in the light of such impressive data, we have failed to adequately control acute bacillary dysentery. Such action would be fully warranted even if only a small proportion of the cases of chronic ulcerative colitis were due to bacillary dysentery. It would seem wise to institute a rigid campaign to control bacillary dysentery in the same manner as typhoid and to note the effect of such control on the incidence of chronic ulcerative colitis or ileitis. This should give rise to serious reflection. Pathologically, the intestinal lesion in acute bacillary dysentery and chronic ulcerative colitis involve identical areas—all or part of the small or large intestine. In both there is a predilection for the distal ileum and the proximal and distal colon. The ileocecal valve is no bar to extension of the infection, and our original contention that ileal involvement occurs in chronic ulcerative colitis has been confirmed. The presence of granulomatous giant cells in ileitis does not nullify the common identity of the histopathological changes in both diseases.

Sensitivity of Shigellae to Antibiotics in Vitro*

Antibiotic	Sensitivity of Strains
Penicillin	None
Chlortetracycline (aureomycin)	Moderate
Chloramphenicol (Chloromycetin)	High
Oxytetracycline (Terramycin)	High
Streptomycin	Relatively low
Dihydrostreptomycin	Relatively low
Bacitracin	None

* 12 strains tested by disk method: Shigella dysenteriae, ambigua, 8 types of flexneri, sonnei, and aklalescens.

In a recent review of 1,072 of our cases of chronic ulcerative colitis and ileitis (chronic ulcerative colitis, 994 cases; ileitis, 31 cases; and combined form, 47 cases), positive cultures for Sh. dysenteriae were found in 75 (7%) as compared with 0.08% in 6,000 controls, including monthly repeat cultures on the same persons for many years (food handlers and nursing personnel) at the Bronx Hospital. A definite epidemiological history (knowledge of the disease having started during an outbreak in an endemic or epidemic dysenteric area) was obtained in 236 and multiple familial contact infections occurred in 24.

Beside the question of etiology, there are other problems of recent interest in chronic ulcerative colitis that will be discussed briefly. These concern pregnancy, carcinoma, and the use of newer therapeutic agents.

5. Zimmerman, L. R.; Cooper, M., and Graber, C. D.: Bacteriologic Studies in Epidemic of Bacillary Dysentery in Korea, Am. J. Clin. Path. **22**: 549 (June) 1952.

6. Felsen, J., and others: Staphylococcic Infections in Hospital Nurseries and Pediatric Wards, A. M. A. Am. J. Dis Child. **81**: 534 (April) 1951.

7. Felsen, J.: Bacillary Dysentery, Colitis and Enteritis, Philadelphia, W. B. Saunders Company, 1945.

8. Felsen, J., and Gorenberg, H.: Chronic Dysentery, Distal Ileitis and Ulcerative Colitis: Follow-Up of Jersey City Epidemic of Bacillary Dysentery, Am. J. M. Sc. **192**: 553 (Oct.) 1936.

9. Stewart, G. T.: Post-Dysenteric Colitis, Brit. M. J. **1**: 405 (Feb. 18) 1950. Felsen.[7]

PREGNANCY

Pregnancy generally has a salutory effect on chronic ulcerative colitis.[10] Rarely is termination of pregnancy indicated. Our own experience covers 117 pregnancies in 72 patients. During 59 of these pregnancies, the patients felt well symptomatically, and this state was reflected by improved or absent sigmoidoscopic findings. In 39 pregnancies, although the patient was not well, the disease had no significant effects on the pregnancy. In five patients, the disease started during pregnancy; these are included in the group of 39. The disease in these five was no worse than in the other 67 patients in whom it antedated the pregnancy. In eight pregnancies, colitis was quiescent during pregnancy but was definitely worse after delivery. In 11 instances, the data were incomplete, and no conclusions referable to the pregnancy or ulcerative colitis could be drawn. Prematurity occurred in one instance and was complicated by retrolental fibroplasia.

CARCINOMA

Carcinoma [11] occurred in 7 (0.65%) of 1,072 of our patients with chronic ulcerative colitis, but there was no evidence that there was any relationship between the two diseases. Our data include patients of varying ages and follow-up periods. Control studies of similar groups in 12,025 general admissions without ulcerative colitis at the Bronx Hospital during 1946 and 1947 revealed an incidence of intestinal carcinoma of 0.8%. Pseudopolyposis in our opinion is but one stage in the inflammatory process in chronic ulcerative colitis. It consists of bits of pinched off mucosa from which regeneration of epithelium occurs to cover denuded areas. Pseudopolyposis frequently occurs at one stage or another in chronic ulcerative colitis and is not to be confused with adenomatous polyps that are neoplastic and exhibit a definite tendency to malignancy.

TREATMENT

The sulfonamides, antibiotics, cortisone, and corticotropin (ACTH) are palliative, not curative, therapeutic agents in chronic ulcerative colitis. Their prolonged use is to be deplored. In the case of the antibiotics and sulfonamides, they lead to the development of resistant strains and may mask dangerous complications.

Surgery is indicated in a small percentage of patients. Any decision must be individualized for each patient, and the surgical hazards, possible failures, and psychological effects must be kept in mind. Ileostomy does not cure ulcerative colitis or stop massive hemorrhage from the colon. While the mortality of this procedure alone has been reduced from about 25 to 4%, very troublesome complications, such as retraction of the stoma, prolapse, and perforation, do occur. The present tendency to do an ileostomy and total colectomy including removal of the rectosigmoid segment in one stage is radical but has a surprisingly low mortality in selected cases.

Friedlander, while at the Ft. Hamilton Veterans Administration Hospital, performed 23 primary resections with two postoperative fatalities (8%). Ripstein, at Maimonides Hospital, did 122 such procedures with five postoperative deaths (4.1%). Dennis, at New York State University, carried out 53 primary resections with one postoperative death (1.9%). Cave prefers the two stage procedure with eventual removal of the distal segment. It is of interest that, in a series of 156 resections, Cave encountered 14 instances (9%) of carcinoma developing in the distal segment. Garlock carries out primary resections only in selected cases in the ordinary chronic form of the disease but not at all in acute cases with massive hemorrhage. Patients with the latter stand the one stage procedure poorly. The procedure takes 4 to 5 hours in experienced hands and must be accompanied by flawless preoperative, operative, and postoperative care, particularly with regard to fluid and electrolyte balance. Operative mortality figures depend largely on the severity of the disease and suitability of the patient for radical surgery.

Most surgeons prefer the two or three stage procedure with removal of the distal segment in all cases. It is generally conceded by surgeons that chronic ulcerative colitis is primarily a medical problem. Surgery should not be withheld, however, until the condition becomes desperate and the risk correspondingly greater. This is largely a matter of clinical judgment, since some patients make dramatic recoveries after massive hemorrhage without surgery and others die of fulminating chronic ulcerative colitis months after an ileostomy. Surgery should be considered in patients intractable to medical therapy and for complications such as uncontrollable hemorrhage, fistulous tracts, and intestinal obstruction. Perforation is attended by an extremely high surgical mortality and is best treated conservatively. Arthritis, erythema nodosum, and necrotizing skin lesions are not indications for surgery and yield to adequate medical therapy. In our experience, all three have a good prognosis. Periarthritic manifestations occurred in 187 (17.4%), erythema nodosum in 15 (1.4%), and necrotizing skin lesions in 16 (1.5%) of our 1,072 cases.

SUMMARY AND CONCLUSIONS

The rapidly increasing incidence of acute bacillary dysentery in the United States is discussed, and evidence is presented that indicates a relationship between acute bacillary dysentery, chronic ulcerative colitis, and ileitis. The more recent studies in the epidemiology, bacteriology, pathology, and clinical aspects of these diseases indicate the strong probability that the ideal therapy of ulcerative colitis and ileitis is the prevention of acute bacillary dysentery.

Fulton Ave. at 169th St. (56) (Dr. Felsen).

10. Bargen, J. A.; Nunez, C. J., and Mussey, R. D.: Pregnancy Associated with Chronic Ulcerative Colitis, Am. J. Obst. & Gynec. **38**: 146 (July) 1939. Felsen, J., and Wolarsky, W.: Chronic Ulcerative Colitis and Pregnancy, ibid. **56**: 751 (Oct.) 1948.

11. Lynn, D. H.: Relationship of Chronic Lesions to Carcinoma of the Colon—Chronic Ulcerative Colitis: Collective Review, Internat. Abstr. Surg. **81**: 269, 1945, in Surg., Gynec. & Obst. (Oct.) 1945. Bargen, J. A., and Sauer, W. G.: Association of Chronic Ulcerative Colitis and Carcinoma, Clinics **3**: 516 (Oct.) 1944. Machella, T. E.: Problems in Chronic Ulcerative Colitis, Am. J. Med. **13**: 760 (Dec.) 1952. Felsen, J., and Wolarsky, W.: Chronic Ulcerative Colitis and Carcinoma, Arch. Int. Med. **84**: 293 (Aug.) 1949. Otani, S., and Snapper, I.: Incidence of Carcinoma in Chronic Ulcerative Colitis, J. Mt. Sinai Hosp. **19**: 275 (May-June) 1952. Kapel, O.: Medical and Modern Surgical Treatment of Chronic Ulcerative Colitis, Acta med. scandinav. **138**: 328 (Sept.) 1950.

ENDOTRACHEAL ANESTHESIA FOR TONSILLECTOMY AND ADENOIDECTOMY IN CHILDREN

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The use of endotracheal methods of anesthesia has been widely accepted for adults. For children, such methods are standard in many operations, especially those about the head and neck, such as craniotomy and cleft palate. The use of endotracheal anesthesia for tonsillectomy and adenoidectomy in children has gained favor slowly in spite of its being the routine method of general anesthesia for tonsillectomy in adults in many hospitals. We believe that the advantages of endotracheal anesthesia for tonsillectomy and adenoidectomy are as great for children as for adults, if not greater, and in our experience the disadvantages have been encountered no more frequently and they have been of no greater magnitude in children than in adults.

ADVANTAGES

The endotracheal tube serves as an airway that is continuously patent in contrast to the frequent obstruction to respiration that occurs during tonsillectomy when an endotracheal tube is not used. A continuously patent airway makes it possible to avoid the development of cyanosis and hypoxia in all patients. Since inhalation anesthesia can be carried on continuously without danger of interruption, a lighter nonvarying level of anesthesia can be maintained throughout operation and the protective laryngeal reflexes become active rapidly after operation. When the endotracheal tube fills the larynx, the passage of blood and other foreign material from the pharynx into the trachea and bronchi is minimized. The dangers of postoperative abscess of the lung and other pulmonary complications are thereby decreased. Steele and Anderson [1] reported aspiration of blood from the trachea in 96.9% of 129 patients who underwent bronchoscopy after tonsillectomy under general anesthesia without endotracheal tubes. In our patients in whom endotracheal tubes were used, bloody secretion could rarely be aspirated from the trachea since the endotracheal tube was removed at the end of the operation. The tube serves, however, as an easily accessible approach through which excessive tracheal and bronchial secretions may be aspirated. This makes postoperative bronchoscopy rarely necessary.

The greatest advantage of endotracheal anesthesia for tonsillectomy and adenoidectomy is the freedom with which the tongue may be retracted to allow excellent surgical exposure without danger of occlusion of the airway. In all our cases, the tube was passed through the mouth, but, instead of visualization of the field of operation being impaired by the tube, it was improved. It may sound paradoxical to the surgeon who has not tried it, but there is more room for operating when the tube is in the mouth than when it is not used, because freedom of retraction of the tongue is allowed by the presence of the tube. When the surgeon is removing the left tonsil, the tube is held in the right corner of the mouth and descends along the right border of the tongue well away from the site of operation. When the surgeon is ready to remove the right tonsil, the anesthetist can move the end of the endotracheal tube to the left corner of the mouth and the pharyngeal aspirator can be used to move the tube to the left border of the tongue. For adenoidectomy, the tube can be put in whichever side of the mouth suits the surgeon's technique best.

DISADVANTAGES

With the rules and techniques we have followed, the disadvantages of endotracheal anesthesia have been minimal. From 1946 to 1951 inclusive, 1,050 endotracheal intubations were performed at the Mayo Clinic for tonsillectomy or adenoidectomy, or both, in patients less than 15 years of age. The only complication or inconvenience that could be attributed to the intubations was displacement of the endotracheal tube from the larynx; this occurred twice during operation. It is likely that some minor complications of intubation, such as transient sore throat, were not detected because of the nature of the operation, but no major complications, such as laryngeal edema necessitating tracheotomy, occurred. The one possible disadvantage of this type of anesthesia is that the services of a trained anesthetist are required.

GENERAL RULES

Not having experienced any serious complications, we cannot say with certainty what procedures and techniques of intubation should not be used. The following general rules are those that were successfully followed to avoid complications of intubation in our young patients.

Avoid Trauma During Intubation.—Various methods of inducing anesthesia were used, but before intubation all patients received ethyl ether to produce moderate surgical anesthesia so that pharyngeal and laryngeal reflexes were abolished. The vocal cords were gently exposed by holding the laryngoscope lightly between the fingers and avoiding the use of force. Contrary to the opinions of some authors, intubation was found in general to be less difficult in children than in adults. Our insistence on moderately deep anesthesia with a potent agent may account for the difference between our experience and that of others. Once the tube is in place, very light anesthesia was all that was needed, that is, just enough to keep the patient from swallowing or coughing. Frequently after intubation the administration of ether could be discontinued and the

From the Section of Anesthesiology and Intravenous Therapy (Dr. Pender) and the Section of Otolaryngology and Rhinology (Dr. Hallberg), Mayo Clinic.

1. Steele, C. H., and Anderson, J. R.: Tracheobronchial Aspiration Following Tonsillectomy with General Anesthesia, Arch. Otolaryng. **51**: 699 (May) 1950.

operation completed with the administration of nitrous oxide and an adequate concentration of oxygen. Several methods were used for delivering the anesthetic gases and vapors from the anesthesia machine—circle absorption, nonrebreathing valves of the Leigh type, Ayre's "T" arrangement, and the Flagg ether can. All methods served satisfactorily for the short duration of anesthesia necessary for tonsillectomy and adenoidectomy.

Select Endotracheal Tube of Correct Size.—A tube was selected to fit each patient rather than to conform

TABLE 1.—*Relation of Tube Size to Age of Child in Endotracheal Anesthesia*

Age, Yr.	Total Cases	Tube Size (French) 16	18	20	22	24	26	27	28	29	30	32	33
1- 2	16	..	8	5	2	1	..	..	..	..	..	..	..
2- 3	48	..	10	31	6	1	..	..	..	..	..	..	..
3- 4	118	1	8	42	52	10	4	..	1	..	..	..	..
4- 5	138	..	6	30	47	40	14	1	..	..	..	..	..
5- 6	135	..	..	14	32	47	38	4	..	..	..	..	..
6- 7	166	..	1	12	24	50	62	17	..	..	..	..	..
7- 8	99	..	..	4	15	30	36	14	..	..	..	..	..
8- 9	75	..	1	..	3	24	33	11	3	..	..	..	..
9-10	39	..	..	..	2	9	13	14	1	..	..	..	..
10-11	37	..	..	1	..	9	16	8	3	..	..	..	..
11-12	31	..	..	..	..	6	9	10	4	..	1	1	..
12-13	41	..	..	..	..	3	11	19	5	2	1	..	..
13-14	34	..	..	..	..	3	9	10	9	1	1	..	1
14-15	12	..	..	..	..	..	2	5	3	1	1	..	..
Total	989	1	34	139	183	233	247	113	29	4	4	1	1

with age or weight. Before intubation, several sizes and lengths of tube were prepared and made available on a tray. After the vocal cords were exposed, a tube was selected that would fill the larynx loosely. If the slightest resistance was encountered in passing a tube between the cords, that tube was discarded and the next smaller size used. Tables 1 and 2 show the sizes of endotracheal tubes used for the various age and weight groups. It will be

TABLE 2.—*Relation of Tube Size to Weight of Child in Endotracheal Anesthesia*

Weight, Lb.	Total Cases	Tube Size (French) 16	18	20	22	24	26	27	28	29	30	32	33
20- 29	30	1	9	15	3	1	1	..	..	..	..	..	..
30- 39	151	..	10	36	59	28	16	2	..	..	..	..	..
40- 49	146	..	..	12	30	57	44	3	..	..	..	..	..
50- 59	116	..	..	8	22	27	45	14	..	..	..	..	..
60- 69	57	..	..	1	2	14	23	14	3	..	..	..	..
70- 79	24	..	..	..	1	9	11	3	..	..	..	..	..
80- 89	22	..	..	..	..	3	10	8	1	..	..	..	..
90- 99	14	..	..	..	..	2	3	6	1	1	1	..	..
100-109	10	..	..	..	..	1	3	1	4	1	..	..	..
110-119	15	..	..	..	..	2	1	8	3	..	..	1	..
120 or more	17	..	..	..	..	3	2	5	4	1	1	..	1
Total	602	1	19	72	117	147	159	64	16	3	2	1	1

seen that in each group a rather wide range of tube sizes was necessary to effect the proper fit of tube to larynx. The distance from the upper incisor teeth to the level of the second costal cartilage was a rough indication of the length of tube needed; however, just as the tip of the tube passed the vocal cords the anesthetist focused his vision on the length of the tube remaining outside the mouth and was able to judge how much farther to advance the tube so that the tip would lie in the middle third of the trachea.

Avoid Motion of Tube in Larynx.—The head of the patient was held firmly in position by the anesthetist. The tube was moved gently and as infrequently as possible. The short duration of tonsillectomy and the natural position of the head during operation make postintubation complications less likely to occur after tonsillectomy than after longer operations, such as craniotomy, during which much movement of the patient's head is likely to occur. Table 3 shows that the duration of intubation was short in most of our procedures. As soon as the tonsillectomy was completed, the patient was turned to the prone position with the tube in place to allow pharyngeal secretions and blood to drain out by gravity. The tube was removed as soon as the patient began to swallow; this usually occurred within a few minutes after the nitrous oxide anesthesia was stopped. Swallowing and coughing when the tube is in place may cause trauma to the larynx.

Use Only Chemically and Bacteriologically Clean Tubes.—No attempt was made to maintain strict asepsis of endotracheal tubes, but contamination was prevented. After use, the tubes were washed inside and out with soap

TABLE 3.—*Duration of Intubation in Endotracheal Anesthesia in Children*

Duration, Min.	Number	%
10-19	7	0.7
20-29	91	8.9
30-39	433	42.3
40-49	314	30.7
50-59	122	11.9
60-69	37	3.6
70-79	10	1.0
80-89	5	0.5
90-99	2	0.2
100 or more	2	0.2
Total	1,023	100
Mean		41.4 min.
Shortest		10.0 min.
Longest		110.0 min.

and water on a brush. They were then boiled 5 minutes or soaked for 30 minutes in an antiseptic solution, such as 1:1,000 solution of benzalkonium (Zephiran) chloride, which does not penetrate the rubber. After being thoroughly rinsed and dried, the tubes were stored in curved plastic containers or sterile towels. Application of a lubricant to the tube before use is not necessary, but, if one is used, it should be sterile and nonirritating and should be applied with a sterile sponge. Care was exercised to prevent the part of the tube that was to pass through the vocal cords from being contaminated by fingers or other unsterile objects before the tube was passed into the trachea.

CONCLUSIONS

The advantages of endotracheal anesthesia for tonsillectomy and adenoidectomy are as great for children as for adults, if not greater. Our experience indicates that the disadvantages of properly executed endotracheal anesthesia for tonsillectomy and adenoidectomy in children have been overemphasized. The endotracheal tube does not in any way obstruct the working space of the surgeon; in fact, visualization is improved.

CORONARY DILATORS AND ANGINA

REAPPRAISAL

Earl N. Silber, M.D.
and
Louis N. Katz, M.D., Chicago

The physiology of the coronary circulation and the problems of human coronary disease have been under investigation for over 20 years in this department. It is our purpose to reexamine certain aspects that form the basis for the clinical use of coronary vasodilator drugs and to summarize our results with several of the preparations in current use.

Drugs that dilate the coronary vessels are useful. The usefulness of a drug, however, does not lie simply in the demonstration of such dilatation. Of equal importance is the necessity of ascertaining that such drugs do not divert blood from the coronary circuit by a disproportionate dilator action on one or more of the other systemic circuits. Under such circumstances, even a coronary dilator drug may leave the coronary flow unchanged or actually decreased. Secondly, it must always be established that drugs that increase coronary flow do not at the same time increase the metabolism or work of the heart proportionately or disproportionately and thereby nullify the anticipated benefits. Epinephrine (Adrenalin) is one drug that has this dual effect.

The term coronary insufficiency, as an expression of inadequate nourishment of the heart by its circulation, has served a useful purpose. It has created a concept of coronary disease that incorporates physiological factors as well as purely anatomic changes in the vessels. The concept that coronary insufficiency is measured by angina pectoris is fallacious. Such a view takes no cognizance of the fact that angina pectoris is pain and, in this sense, must be analyzed in terms of the physiology of sensation —quite apart from factors having to do with coronary flow.[1] This involves an appreciation of the location and variable level of threshold of pain endings in the heart, the mechanism of referred pain, and the psychology of pain appreciation. To the clinician without such knowledge, the occurrence of angina, unrelated to effort, remains an unexplainable mystery.

Our knowledge of the effect of drugs on the coronary circulation is derived from animal experiments employing various types of isolated hearts, the heart-lung preparation, or the heart beating in situ. In the first two methods, conditions were usually carefully controlled by denervation, cannulation, elimination of contraction, and use of a constant perfusion pressure. In such preparations, changes in flow can result only from alteration in the caliber of the coronary vessels. We have, at one time or another, used each of these preparations. Most of the drugs examined, with the exception of vasopressin (Pitressin), foreign species blood, and potassium in high doses, were found to be coronary vasodilators. Such experiments give little indication of the effect of these drugs on the heart itself or any information of extracardiac effects, such as on blood pressure, pulse rate, and respiration, that may nullify the coronary effect. It should also be borne in mind that drugs that are potent when introduced directly into the circulation of experimental preparations may be completely inert or may possess only a weak or evanescent effect when administered orally.

CLINICAL EVALUATION

Animal experiments show what happens under a specific set of circumstances and serve as a first line of investigation. The effect of these drugs must then be investigated in patients with coronary disease. This brings us to the problem of the clinical evaluation of coronary dilator drugs. It is apparent, from even a casual survey of the literature dealing with the medical treatment of angina, that confusion and conflicting reports surround the use of each of the coronary drugs currently in favor. Such discrepancy in results has as its basis the poorly designed clinical experiment. In this regard, several factors are of major importance; some concern the object of the study, others the investigator.

One must first appreciate the marked variability in the incidence and severity of pain that occurs in patients with angina who are receiving no therapy whatever. These vagaries occur not only under the influence of season, climate, disease in other organ systems, and emotional disturbances but also under apparently unchanging conditions. All of us have at some time observed a decline in attacks of anginal pain with a concomitant rise in the stock market! Because of such variability, the conviction has grown in our department that observations of the effect of coronary dilators should be made for a minimum of one year in a large group of patients. "Small, but carefully observed" groups constitute a type of selection that, in itself, may lead to incorrect conclusions. Second, in choosing patients for study, only those with severe angina should comprise the group. By severe, we refer to patients experiencing a minimum of several attacks of angina a day. Statistically, it may be said of a patient experiencing 1.5 attacks per week before treatment and only 0.6 attack per week while under treatment that he has shown an improvement of "more than 50%." From a realistic standpoint, however, the difference is not significant, yet value is repeatedly attached, in the literature, to drugs on the basis of such meager evidence. On the other hand, one cannot categorically deny the value of a drug in angina when unequivocal benefit is seen in only a small percentage of cases. Furthermore, while severe angina is preferable for testing therapy, it is conceivable that the very severity of the angina may, on occasion, lead to negative results, whereas in milder forms a drug may actually have value.

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This study was aided by grants from the Herbert Mayer Memorial Fund and the Loewenthal Fund.

Read before the Section on Internal Medicine at the 102nd Annual Meeting of the American Medical Association, New York, June 2, 1953.

1. Katz, L. N.: Mechanism of Pain Production in Angina Pectoris, Am. Heart J. **10**: 322, 1935.

It should hardly be necessary to advise, in the study of so highly a subjective ailment as angina, the need for repeated substitution of a placebo for the therapeutic agent. Mention should be made, in this regard, of patients who respond readily to the "ceremony of therapy." These are persons who show improvement regardless of what drug is used. They get better, as far as angina is concerned, even when a placebo is used in the double blind test. The question arises whether their use in tests of drugs that might relieve angina does not decrease the accuracy of a study. It is our present conviction that such patients are not suitable for this type of clinical evaluation and perhaps should be separated in clinical surveys from those who are not so obviously susceptible to the ceremony accompanying therapy.

BIAS

Finally, bias on the part of the investigator, whether it is conscious or unconscious, is a major source of error in such clinical studies. In its more benign form, this expresses itself by an enthusiastic approach on the part of the observer or through suggestion by use of leading questions. Speaking editorially in a recent issue of THE JOURNAL, Beecher [2] pointed out that "Observation is difficult enough when objective signs are under consideration; it is more difficult when subjective responses are examined. Then not only is the patient's sending station of doubtful accuracy but the observers reception of the signals is confused by extraneous noises produced by tradition, by confusion derived from his own more or less acute perception, by his failure to seek patiently for the truth, but most of all by bias."

Our earlier clinical experience with papaverine [3] and visammin (khellin) [4] made us realize in 1949, that in any such study not only the patient but the observer must be unaware of whether active drug or placebo is being administered. This technique has been termed the double blindfold method by others.[5] We have relied solely upon relief of pain as a criterion of the efficacy of a particular agent. We have rejected exercise tolerance or hypoxemia tests because response to these procedures varies spontaneously in patients and requires repeated testing over long control periods to make their use at all worth while. More important, these tests are artificial and are not comparable to the clinical situation that evokes anginal pain. It cannot be shown that there is a high correlation between the ability of a drug to prevent electrocardiographic changes under stress and to prevent anginal pain.

In 1949, employing the double blindfold method, we investigated the effect of dioxyline phosphate (Paveril) on 20 patients with severe angina.[6] In these patients, observed up to six months, no benefit was noted. In our studies of pentaerythritol tetranitrate (Peritrate) in 1950, we found that it exerted no significant benefit.[7] Many of the patients on whom this drug was tested were previously subjects for the study with dioxyline phosphate, and the vagaries of their angina had been well characterized.

In 1950, in the resurvey of visammin, we made the drug available to members of the attending staff at Michael Reese Hospital for use in their private practice. It was understood that, as they reported their results to the dispensing agent of this department, substitution of drug for placebo or placebo for drug would be made without their knowledge. By this technique, it was not possible to demonstrate significant relief of pain in any but an occasional patient.[8] Side-reactions occurred in a third of such patients and necessitated discontinuance of the drug in 50% of the group. When confronted with the data of such blind testing, the staff soon could not be induced to continue the use of visammin.

We have had no reason to change our mind with respect to papaverine from the opinion expressed in the study of Simon and his associates in 1949.[9] Here, as elsewhere procaine amide (Pronestyl) hydrochloride or quinidine have practically supplanted the use of papaverine in abolishing ectopic ventricular rhythms.

At present, we are observing the effect of estrogens on the anginal syndrome. This is not a study of coronary dilators but of agents acting on coronary wall lesions. The ability of these substances to prevent [10] or induce [11] regression of coronary atherosclerosis looms as a highly promising lead. It is much too early to speak of results.

SUMMARY AND CONCLUSIONS

An attempt is made to point out what have continued to appear as important concepts in the treatment of coronary disease. The pitfalls of clinical observations in this area are emphasized. Rigid attention to such sources of error in clinical investigations on angina pectoris would go a long way in resolving the value of the multiple forms of therapy now currently employed and would give security in testing new ones.

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2. Beecher, H. K.; Clinical Impression and Clinical Investigation, editorial, J. A. M. A. **151**: 44, (Jan. 3) 1953.

3. Elek, S., and Katz, L. N.: Some Clinical Uses of Papaverine in Heart Disease, J. A. M. A. **120**: 434 (Oct. 10) 1942.

4. Rosenman, R. H., and others: Observations of Clinical Use of Visammin (Khellin), J. A. M. A. **143**: 160 (May 13) 1950.

5. Greiner, T., and others: Method for Evaluation of Effects of Drugs on Cardiac Pain in Patients with Angina of Effort: Study of Khellin (Visammin), Am. J. Med. **9**: 143, 1950. Rinzler, S. H., and others: Effect of Heparin in Effort Angina, ibid. **14**: 438, 1953.

6. Silber, E. N., and Katz, L. N.: Unpublished observations.

7. Salans, A. H.; Silber, E. N., and Katz, L. N.: Unpublished observations.

8. Silber, E. N., and Katz, L. N.: Unpublished observations.

9. Simon, A. J., and others: Reevaluation of Papaverine in Treatment of Angina Pectoris, J. Lab. & Clin. Med. **34**: 992, 1949.

10. Stamler, J.; Pick, R., and Katz, L. N.: Prevention of Coronary Atherosclerosis by Estrogen-Androgen Administration in the Cholesterol-Fed Chick, Cir. Research **1**: 94, 1953.

11. Pick, R.; Stamler, J.; Rodbard, S., and Katz, L. N.: Estrogen-Induced Regression of Coronary Atherosclerosis in Cholesterol-Fed Chicks, Circulation **6**: 858, 1952.

Sunlight Flavor in Milk.—Exposure of milk to daylight, in conventional glass milk bottles, for periods of about ½ hour or more produces an objectionable flavor commonly known as "sunlight" or "activated." Wavelengths of light in the visible spectrum are responsible for the flavor. Incident to its production, most of the ascorbic acid and a substantial part of the riboflavin in the milk are destroyed. Therefore, sunlight flavor in milk has important economic and nutritional implications. Sulfur-containing compounds are associated with the flavor. . . . The importance of methionine in sunlight flavor production first was suspected when exposure of dilute aqueous solutions of this amino acid was observed to develop a flavor apparently identical with that produced on exposing milk. Further study revealed that the addition of methionine in quantities as little as 4 mg./qt. greatly enhanced production of the flavor in skim milk.—S. Patton and D. V. Josephson, Methionine—Origin of Sunlight Flavor in Milk, *Science*, Aug. 21, 1953.

EMERGENCIES IN THE NEWBORN

George Cooper Jr., M.D., McLemore Birdsong, M.D.
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An editorial in THE JOURNAL, Feb. 7, 1953, stated, "Although there has been a remarkable decrease in rate of death in the first year of life during the past quarter of a century, the number of infants dying in the first 24 hours of life has diminished but little." The editorial was stimulated by Fischer's article "The First Day of Life, the Physician's Responsibility," which appeared in the November, 1952, issue of the *Medical Clinics of North America*. As Fischer emphasized, since 1945 an infant's chance of dying has been greater during the first day of life than at any time between the 2nd and 12th months (fig. 1). He commented, "That this cannot be lightly passed off (as) due to the absence of medical care at birth is . . . proved by the fact that in 1950 . . . in Philadelphia, where 95 per cent of infants are born in hospitals . . ., 534 of the 47,680 newborns failed to live beyond their first day." As can be seen in the graph, the decline in death rate during the first month of life, as well as the first day, has not kept pace with the decline in the period from the 2nd to 12th month.

The joint session of the pediatrics and radiology sections of the American Medical Association is a fitting occasion for a discussion of the more important indications for roentgenologic examination of the newborn. Prompt, accurate diagnosis and prompt, skillful treatment can alter the figures, in spite of the fact that prematurity and uncorrectable congenital deformities are the greatest obstacles to improvement.

RESPIRATORY AND CIRCULATORY EMBARRASSMENT

Of the indications for roentgen examination of the newborn, those suggesting abnormalities of the lungs and diaphragm are usually the earliest discovered. They may be conveniently discussed as a group and consist chiefly of cyanosis, respiratory irregularity, thoracic respiratory effort, gross inequality of respiratory excursion, percussion dulness, and physical signs of mediastinal shift.

While the assistance of roentgen diagnosis must be sought freely if correctable abnormalities are to be discovered and treated promptly and successfully, transient mild cyanosis, respiratory irregularity, and perhaps even intermittent thoracic respiratory effort can occur without serious significance, especially in premature babies. Since disturbance of these delicate infants is undesirable, even for so simple a procedure as a roentgenographic examination of the chest, good judgment must be displayed in the clinical evaluation of symptoms. Roentgen examination should be employed frequently but not routinely. On the other hand, when there is persistent thoracic respiratory effort, gross inequality of respiratory excursion, or percussion dulness or when physical signs of mediastinal shift are observed, roentgen examination of the chest is almost certain to yield valuable information and should be performed promptly. An emergency situation is often discovered.

Pulmonary Maldevelopment.—Roentgen examination contributes significantly to the recognition of pulmonary aplasia and hypoplasia. Conclusive diagnosis requires bronchography as well as conventional chest films. The chief importance of the recognition of these abnormalities is prognostic. They are compatible with a normal life span, though it may be necessary to give the baby an increased amount of oxygen until an initial respiratory embarrassment is overcome.

Atelectasis.—Recognition of incomplete expansion of the lungs is chiefly of prognostic value. As demonstrated in 1933 by Wilson and Farber,[1] a varying amount of nonaeration is physiological in the first few days in normal, full-term babies and in the first four to six weeks in premature infants. But atelectasis secondary to obstruction of a bronchial lumen is absolutely not physiological. Differentiation between the two is vital and requires close cooperation between pediatrician and roentgenologist. Incomplete expansion requires no treatment, but the relief of obstructive atelectasis by bronchoscopy and suction is an emergency procedure that reduces morbidity and mortality.

Pulmonary Hyaline Membrane Syndrome.—In the case of pulmonary hyaline membrane, recognition depends on close cooperation between pediatrician and roentgenologist. There are many unsettled controversies as to its pathogenesis and chemical nature,[2] but Meschan and his associates [3] have pointed out recently that the initial phase of the syndrome presents the unique combination of dyspnea and clinical manifestations of asphyxia and that roentgenograms demonstrate good pulmonary aeration. This combination is followed by progressive improvement of symptoms and clouding of the lung fields. A prompt, correct diagnosis is vitally important because, in sharp contrast to the treatment of obstructive atelectasis, infants suffering from hyaline membranes should not be laryngoscoped. Since these infants regurgitate easily, they should not be fed. They should be treated with high oxygen concentration, mist, and antibiotics. Infants brought safely through the first four days of life usually survive (fig. 2).

Positive Pressure Pneumothorax.—Pneumomediastinum and pneumothorax occurring independently or in combination are demonstrated well by chest roentgenograms. In the newborn, localized obstructive emphysema is the most frequent cause of either rupture of the visceral

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Read before the joint meeting of the Section on Pediatrics and the Section on Radiology at the 102nd Annual Meeting of the American Medical Association, New York, June 2, 1953.

1. Wilson, J. L., and Farber, S.: Pathogenesis of Atelectasis of Newborn, Am. J. Dis. Child. **46**: 590 (Sept.) 1933.

2. Report of Fifth M. & R. Pediatric Research Conference, Columbus, Ohio, M & R Laboratories, 1953, p. 45.

3. Meschan, S.; Marvin, H. N.; Gordon, V. H., and Regnier, G.: The Radiographic Appearances of Hyaline Disease of the Lungs in the Newborn, Radiology **60**: 383 (March) 1953.

4. Macklin, M. T., and Macklin, C. C.: Malignant Interstitial Emphysema of the Lungs and Mediastinum as an Important Occult Complication in Many Respiratory Diseases and Other Conditions: An Interpretation of the Clinical Literature in the Light of Laboratory Experiment, Med. **23**: 281 (Dec.) 1944.

pleura or passage of air along perivascular spaces into the mediastinal tissues.[4] The recognition of the two conditions is valuable so that unnecessary bronchoscopy may be avoided. Furthermore, the relief of a positive pressure pneumothorax is often a lifesaving procedure.

High Tension Cysts.—The recognition of pulmonary cystic disease in the newborn has acquired increasing significance as the skill of the thoracic surgeon has developed. As Caffey comments in his book "Pediatric X-Ray Diagnosis," many lesions having a roentgenologic appearance suggestive of congenital cysts probably represent emphysematous cavities produced by check valve obstruction of a bronchus. But whatever the pathological anatomy, high tension cysts, by displacement of the thoracic viscera, embarrass respiration and circulation and may cause death. Two recent successive issues of THE JOURNAL contained reports vividly emphasizing the importance of prompt recognition and treatment of these cysts. One was a report [5] of the case of an infant in whom dyspnea and cyanosis developed on the seventh day of life. Roentgenograms revealed large cystic cavities filling the right side of the chest and displacing the mediastinum to the left. Symptoms became severer, and the child was submitted to surgery on the ninth day of life. The cysts were found to be confined to the right middle lobe, which was successfully removed. The baby recovered. Another report [6] described an infant who had had intermittent cyanosis from birth. Air-filled spaces in the left side of the chest demonstrated in roentgenograms on the second day of life were misinterpreted, and the infant underwent abdominal exploration for diaphragmatic hernia. Mediastinal shift and respiratory embarrassment progressed and by the 14th day of life, when the correct diagnosis of cystic disease was recognized, the baby was moribund. Thoracotomy was performed at once. The upper portion of the left lung contained the cysts. A simple excision was hurriedly performed, and the child made a good recovery. In the same article, there is another report of a 10-day-old infant with a history of progressive dyspnea and cyanosis from birth. Decompression of cysts demonstrated radiologically by interrib thoracotomy suction had been attempted but had failed to relieve the baby. When the child was 12 days old, a successful right middle lobe resection was performed. We can cite an instance in which a 4-week-old baby with a history of progressive dyspnea since birth was admitted in a moribund condition. Chest films demonstrated pulmonary cysts, tension pneumothorax, and mediastinal shift (fig. 3). An emergency thoracotomy was performed, a cystic right lower lobe was resected, and the infant recovered. Here there is a dramatic opportunity to alter the graph with which we started.

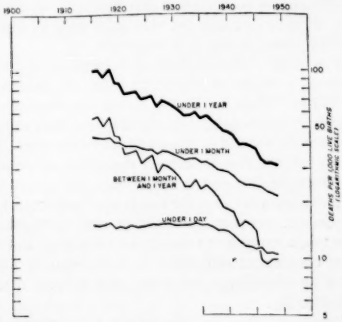

Fig. 1.—Mortality rates in the first year of life, from the Federal Security Agency, Children's Bureau.

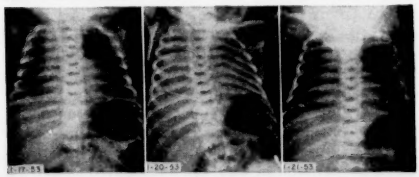

Fig. 2.—Roentgenograms of infant with pulmonary hyaline membrane syndrome; 1/17/53, first day of life, cyanosis and respiratory embarrassment severe; 1/20/53, fourth day, symptoms largely relieved; and 1/21/53, fifth day symptoms absent.

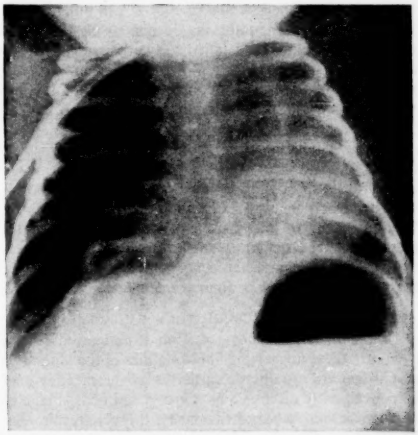

Fig. 3.—Congenital cystic disease of the right lower lobe with positive pressure pneumothorax due to bronchopleural fistulas; emergency lobectomy was followed by excellent recovery.

Diaphragmatic Hernia.—Unless corrected promptly by reduction and surgical repair, a diaphragmatic hernia is apt to cause sudden death. This may be the result of the visceral dislocation or intestinal obstruction with consequent vomiting and aspiration pneumonia. If the infant survives and longer delay is permitted, surgical repair becomes difficult because of the underdevelopment

5. McEachern, C. G.; McCoy, R. R., and Arata, J. E.: Lobectomy for Congenital Cystic Disease of the Lung: Report of Case in a Nine-Day-Old Infant, J. A. M. A. **151**: 992 (March 21) 1953.

6. Gilbert, J. W.; Meyers, R. T., and Bradshaw, H. H.: Pulmonary Cysts: Report of 21 Cases, J. A. M. A. **151**: 1075 (March 28) 1953.

of the abdominal cavity. Usually thoracic gas shadows arranged in an intestinal pattern make the roentgen diagnosis obvious. Occasionally, a small amount of iodized oil (Lipiodol) must be followed through the gastrointestinal tract. If a thoracic stomach is encountered, a radiopaque medium should always be used to determine the length of the esophagus before surgery is undertaken.

Cardiac Abnormalities.—In considering the contributions of roentgenology to the handling of emergencies in the newborn in which symptoms suggest abnormalities of the contents of the thorax, the discovery of an abnormal cardiac silhouette has been deliberately slighted. Cyanosis and abnormal heart sounds are indications for chest roentgenograms from which useful information is obtained when cardiac abnormalities are present. But since cardiac surgery has as yet no place in the care of the newborn, this subject is mentioned only in passing.

ABDOMINAL MASS

The finding of an abdominal mass other than an enlarged liver or spleen is an emergency in the newborn as well as in older infants. It is an indication for immediate investigation, including roentgen examination.

A soft or cystic mass will probably be found to be due to polycystic kidney disease or hydronephrosis. Abdominal films and excretory pyelograms are usually necessary to establish a diagnosis. While the discovery of polycystic kidney disease is of value only in that it rules out the presence of a treatable condition, recognition of a hydronephrosis is of positive value. Correction by relief of an obstruction or, when necessary, by nephrectomy results in restoration of normal visceral relations in the abdomen and removal of the dangerous threat of infection of the hydronephrosis with subsequent complications. Here, too, is a real opportunity to reduce morbidity and mortality.

Since a solid mass will oftenest be due to a neuroblastoma or a Wilms' tumor, such a discovery is an emergency calling for an investigation of not more than two or three days' duration in preparation for treatment. As neuroblastomas frequently metastasize to the skeleton and Wilms' tumors to the lungs, skeletal and chest roentgen examinations are of prognostic value. Bone marrow studies may reveal invasion by neuroblastoma while the roentgenograms still indicate nothing abnormal. The discovery of metastases should, however, rarely be allowed to alter plans for surgical removal of the primary tumor. Excretory pyelograms may offer roentgen evidence of value in differential diagnosis between the two tumors, but this is of little practical therapeutic value. Pyelograms are of importance in demonstrating the relation, if any, of the abdominal mass to the kidney, and they are a preoperative necessity for proof of the presence of at least one normal, functioning kidney. The treatment of both tumors is prompt surgical excision and roentgen therapy.

Although apparent cures following bone or central nervous system metastases from neuroblastomas occur, they are extremely rare. But results in less advanced cases are encouraging. Farber [7] reported 10 of 40 patients alive three to eight years after treatment, and Wittenborg [8] reported 13 of 23 patients alive three years or longer after treatment, including 6 patients in whom liver metastases were found when the primary tumor was removed. As for the Wilms' tumors, Gross and Neuhauser [9] reported on 18 of 38 patients alive and well two years or longer after surgery and postoperative radiation.

Findings other than the usual may be revealed when an abdominal mass is investigated (fig. 4); but only rarely, except for polycystic kidney disease, is a condition found in which prompt diagnosis and treatment do not result in reduced morbidity and mortality.

DIFFICULT SWALLOWING

Immediate roentgen investigation is indicated when an infant drools excessively or spits up its first feeding. Esophageal atresia, with or without tracheal communi-

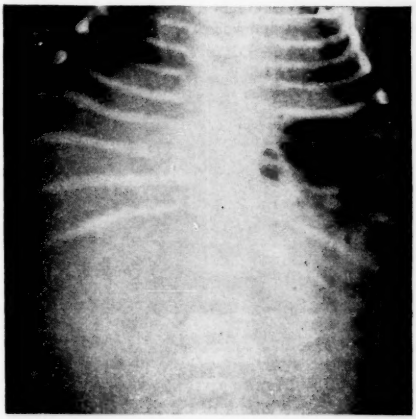

Fig. 4.—Abdominal mass in a newborn found at exploration on second day of life to be an ovarian cyst, which was successfully removed.

cation, is usually the cause. There is no need to discuss here the roentgenologic findings in the varieties of esophageal atresia, but it is important to emphasize that the condition is an extreme emergency. Pneumonitis and atelectasis caused by aspiration of food and saliva may develop in the first 24 hours of life. As it, too, may be aspirated, barium suspension should not be used as a contrast medium in the roentgen demonstration of the anatomy. A soft rubber catheter should be inserted to the point of obstruction and then a little iodized oil may be injected. Prompt, accurate diagnosis and immediate surgical establishment of a normal anatomic arrangement are now saving many of these infants.

7. Farber, S.: Neuroblastoma, Am. J. Dis. Child. **60**: 749 (Sept.) 1940.
8. Wittenborg, M. H.: Roentgen Therapy in Neuroblastoma: Review of 73 Cases, Radiology **54**: 679 (May) 1950.
9. Gross, R. E., and Neuhauser, E. B. D.: Treatment of Mixed Tumors of the Kidney in Childhood, Pediatrics **6**: 843 (Dec.) 1950.

VOMITING AND ABDOMINAL DISTENSION

The usual cause of vomiting and abdominal distension in the newborn is obstruction of the small bowel or upper colon. Surgical correction is often lifesaving. Time is of the essence. To quote from Caffey's book again, "There is perhaps no area of pediatric roentgenology where the patient benefits more from accurate diagnosis or where he suffers more from late or inaccurate diagnosis."

Roentgen examination of the abdomen should be carried out immediately after suspicion of intestinal obstruction arises. Though the exact cause of an obstruction may not be determined preoperatively, it is not often that its level cannot be accurately located by the demonstration of distension proximal to the obstruction and collapse distally (fig. 5).

There is no need to discuss the various causes of intestinal obstruction. Our purpose is to emphasize that, because surgical correction is usually possible when undertaken early, prompt investigation of symptoms suggesting obstruction will save lives.

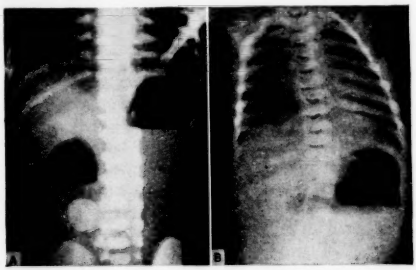

Fig. 5.—Two examples of duodenal obstruction, *A*, due to atresia and, *B*, malrotation of colon and a congenital band.

FAILURE TO PASS MECONIUM

An uncorrected atresia of the lower bowel will, of course, result in abdominal distension and vomiting. But obstruction of the lower bowel should be recognized and corrected before this clinical picture develops. An obvious but frequently overlooked indication for roentgen examination of the newborn is failure to pass meconium or scanty passage. The finding by digital rectal examination of a perforate anus does not remove the necessity of making certain that normal elimination of meconium takes place within a few hours after delivery. Complete atresia may occur above the examining finger anywhere along the colon around to the ileocecal junction and so may stenosis of varying degree.

Unlike atresia of the small bowel in which prompt surgical relief usually saves a life, atresia of the large bowel is seldom survived. Still, the only chance for survival lies in prompt recognition of the difficulty by an alert pediatrician and roentgenologist and immediate surgical intervention.

Roentgen examination is not needed to establish the diagnosis of an imperforate anus, but useful preoperative information can be obtained by taking roentgenograms with an opaque marker on the anal dimple while the baby is inverted. As reported by Wangensteen and Rice in 1930, if the blind rectal pouch is not filled with meconium, gas rises to distend it, permitting accurate measurement of the distance between skin and pouch.[10]

CONCLUSIONS

Since mortality rates in infants under one month old are not declining as rapidly as in infants from 2 to 12 months old, special emphasis should be placed on care of the newborn. Successful treatment of the newborn depends to an unusual degree on quick action.

The roentgenologist can make important contributions to the solution of problems arising in the newborn. Free use of his assistance and close cooperation between pediatrician and roentgenologist is necessary to optimum success in achieving prompt, accurate diagnosis followed by prompt, skillful treatment.

10. Wangensteen, O. H., and Rice, C. O.: Imperforate Anus: Method of Determining Surgical Approach, Ann. Surg. **92**: 77 (July) 1930.

Trends in Authorship.—A major trend in the organization of science during the past two decades has been an evolution away from the individual investigator in favor of research teams. Accompanying this trend, scientific publications have become afflicted with an increasing tendency towards multiple authorship of papers. Almost any scientific journal will reveal this affliction. . . . Is this trend necessary or desirable?

At the risk of being presumptuous, we would define the requisites for authorship of a scientific paper as being "the contribution of creative thinking to the advancement of science." Creative thinking assumes (or at least should assume) its greatest importance in the design of an experiment. How many creative minds contribute to the design of the usual experiment? No data are available and generalizations are hazardous, but it seems a reasonable guess that a distinct majority of experimental designs are the fruit of a single creative mind. There are certainly some instances where two or three individuals, who have worked as colleagues for a significant length of time, can design experiments on the basis of discussions in which there was mutual participation. But how often does the basic design of an experiment represent the product of six to eight individuals thinking in unison? . . .

The practical difficulties created by multiple authorship are obvious. Indexing and bibliographic services represent one of the most difficult problems in the structure of modern science. Whether one considers a large indexing agency or an individual investigator compiling a bibliography, multiple authorship necessitates an extravagant expenditure of valuable time and effort, which might otherwise have been devoted to more constructive endeavors.

Of even greater importance is the degrading effect that multiple authorship has upon the meaning of authorship. It would seem safe for the reader to assign a significant degree of credit to the author's name that appears first. In some instances, the reader also may be able to identify the name of the senior investigator in the laboratory of origin, and rightly or wrongly, assign him some credit for the publication. What of the rest? Just what is the reader supposed to deduce from the fact that John Doe was the seventh out of eight authors? This deduction becomes all the more difficult if the reader discovers that the work reported could easily have been accomplished by two competent investigators in two or three months' time.—Robert S. Alexander, *Circulation Research*, a Journal of the American Heart Association, July, 1953.

SURGERY BY DIRECT VISION IN THE OPEN HEART DURING HYPOTHERMIA

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The heart for centuries was suspected of being a delicate organ; the slightest injury was said to be uniformly fatal. Both the great Billroth and Sir Stephen Paget decreed the organ to lie outside the domain of possible surgery. Yet in reality the heart is a compact muscular organ that, by virtue of highly specialized intrinsic properties, functions continuously throughout the lifetime of the individual. It has an extraordinary capacity to adjust to the changing needs of body circulation. Its inner compulsion toward perpetual function is one of the most critical aspects of the life drive of individuals and species. Only when poisoned or deprived of its flow of nutrient requirements will this persistent organ lie still or lose itself in the quivering death of disorganized activity. A great ability to withstand trauma and to adjust to the stresses imposed by intrinsic disease emphasizes its essential vitality. Given half a chance, the heart will beat.

In the period from 1895 to 1913, Di Vecchio, Haecker, Schepelmann, Elsberg, and Carrel, as well as many others, showed in the experimental laboratory that the heart could withstand surgical trauma and that many complex operative procedures could be performed with relative safety. The main principles of cardiac surgery were well demonstrated and established. The medical tradition of centuries, however, could not be so easily set aside—the heart was delicate and should not be touched! Accordingly, for 25 years the treatment of acute trauma was the only clinical application of this knowledge. In 1938, an event of great import occurred. Pediatrician John Hubbard, of Boston, requested Robert Gross to operate on a child suffering from a patent ductus arteriosus. The successful repair of this congenital "heart" lesion provided the stimulus that has since resulted in the general recognition that the heart is not unique among the organs of the body: it is amenable to surgical therapy.

REVIEW OF SURGICAL PROCEDURES

For the past 15 years in the surgical laboratories and clinics both in the United States and abroad, the principles underlying cardiac surgery have been reexplored and the human application of these techniques has been gradually expanded. In almost all instances, however, these operations have been performed by closed methods; that is to say, the maneuvers within the heart have been done blindly, guided only by the "feel" of the palpating finger. This type of procedure, while often effective, is at best a compromise. To obtain an unimpeded view of the operative field is a fundamental principle of surgery. Adequate exposure for direct vision is an essential component of every safe surgical procedure. In this regard, the interior of the heart has offered some special technical difficulties. Operations on the pericardium, neighboring great vessels, or the exterior of the heart chambers can be easily visualized. The necessity of maintaining circulation during operative maneuvers inside the heart, however, has led investigators to seek the solution of this interesting problem down two separate avenues of study.

The first and more obvious method, of course, was to provide a mechanical pump to furnish the driving force for the blood and then to remove temporarily the heart from the circulation. Either a single pump or two pumps in association with an oxygenator (the animal's own lung, a homologous lung, or a mechanical device) could be utilized, depending on whether one wished to open one or both sides of the heart and depending on whether defects existed in the cardiac septums. This approach to the problem has been vigorously pursued in many laboratories, and recently a few clinical applications have been made.

The technical difficulties associated with this method are great. The instruments are costly and complex and require many skilled persons to use them. A major operative procedure is required to attach the machine to, and later remove it from, the patient's circulatory system, necessarily adding to the magnitude of the total operation and to the postoperative morbidity. The blood of the patient must be heparinized and its capacity to clot later restored with protamine. Overloading of the circulation must be avoided. Hemolysis and air embolism are hazards. Blood flows from the coronary vein into the right auricle and obscures the operative field unless special suction techniques are applied to the sinus. Even so, blood from the thebesian veins on the right and blood from the bronchial artery, via the pulmonary veins, on the left, appear to constitute inescapable flows. At its very best, then, the pump-oxygenators have not yet produced a dry field in which to operate, although the degree of blood flow may be compatible with intermittent visual operative maneuvers. The solutions to many of these problems associated with extracorporeal circulations have been found; others will also be solved; but the inherent characteristics of the technique seem unlikely to change. These adverse characteristics are (1) its complexity and expense, (2) the material increase in the magnitude of operation, and (3) its failure to provide a dry field for operation.

The other avenue of approach to the open heart has been the attempt to lower the metabolism of the patient until circulation can be interrupted for periods of time long enough to allow deliberate and extensive intracardiac maneuvers. It must be remembered that interruption of circulation experimentally was early utilized by Haecker, Schepelmann, and Carrel, and its limitations were explored. In the normal animal, two to three min-

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utes appeared to be the maximum allowable time before cardiac or cerebral damage occurred. This technique has recently been used clinically in a few instances,[1] but the need for longer periods of exposure has sharply limited the magnitude of the procedures that could be performed.

To Bigelow [2] and Boerema [3] must go the credit for the conception and demonstration that general hypothermia can be employed to allow cessation of circulation for as long as fifteen minutes in the dog. Since their initial reports, study of the modality of cold has been made in many laboratories. The risks appeared to be high when cooling was associated with interrupted circulation and the open heart. In Bigelow's original series, only 15% of the dogs survived. In the later studies of Lewis and Taufic [4] and of Cookson and co-workers,[5] the mortality was better but still high. The lethal complications were primarily related to two phenomena: ventricular fibrillation and coronary air embolism. To make the use of hypothermia safe for open cardiac procedures, these two complications must be effectively prevented or managed. Unfortunately, in one clinical trial made prior to the series reported herewith, the mortality was high (about 73%).[6] Much of this mortality was due to the desperate nature of the lesions treated, but some was due to the complications of hypothermia with arrest of circulation. In another series, successful closure of interauricular septal defect was achieved in three of six patients.[7]

EXPERIMENTAL STUDY

On the basis of extensive experimental evidence, together with clinical experience in 15 patients, we believe that hypothermia in association with cessation of circulation may now be performed with a degree of safety that warrants a more extensive clinical trial. In our standard experimental situation, a dog was anesthetized with veterinary pentobarbital (Nembutal) and cooled in ice water to a temperature of 20 to 25 C. Thoracotomy was performed; flow of blood into the heart was occluded for 15 minutes, during which time a right auricular cardiotomy was performed. No other pharmaceutical agents were employed. Artificial respiration was performed by means of a mechanical respirator with oxygen via an endotracheal tube. After operation the animal was warmed in water at 45 C. A great variety of physiological variables were studied with the hope of unearthing changes that might be related to the incidence of ventricular fibrillation. This work has been reported elsewhere.[8] In essence, however, two changes in body constants appeared related to fibrillation.

The first change was in the concentration of carbon dioxide in the blood (and probably the tissues). On the basis of our work together with that of others,[9] it appeared likely that a sudden fall in carbon dioxide from an abnormally high level toward normal was a fibrillatory stimulus in the dog. By means of hyperventilation to control carbon dioxide accumulation (deliberate respiratory alkalosis) the incidence of ventricular fibrillation in the experimental animal was reduced to a level of about 8%.

The second change was found to be a shift in the locus of potassium. During cooling and hyperventilation a fall in the potassium level in the serum was observed. The exact significance of this change in terms of ventricular fibrillation was not understood, but the well-known importance of this ion in relation to cardiac rhythm led us to investigate the use of potassium as a defibrillatory agent. Previously, in our hands, the use of electric shock had been entirely ineffective as a means of resuscitation of ventricular fibrillation in the hypothermic animal. We now found, however, that by means of a potassium chloride solution injected into the coronary circulation we could routinely defibrillate the cold dog's heart and restore normal rhythm.

On the basis of these two phases of the study we felt that ventricular fibrillation complicating hypothermia could be largely prevented; even if it occurred, an effective means of resuscitation was available. The other chief source of worry was related to the prevention of coronary air embolism. Extremely small volumes of air entering the coronary arteries are capable of causing myocardial ischemia and death. If the cardiac septums are intact and air enters the right side of the heart, a considerable volume may escape into the pulmonary circulation without lethal effect. Air admitted directly into the left side of the heart or indirectly via a right-to-left opening, such as a septal defect or pulmonary arteriovenous fistula, constitutes an immediate threat to life even if small amounts should escape into the aorta. For this reason, great care must be exercised to prevent this occurrence during open cardiac operations. On the basis of experience with the experimental creation of auricular septal defects, with the use of an open approach through the right auricle in the warm animal, a technique was developed to prevent this catastrophe.[10] Accordingly, in both our experimental and our clinical experience using hypothermia, this complication did not occur.

Surgeons who have had the opportunity to watch valvular function in the open beating heart are impressed with the dual phase of the act of closure of the atrioventricular valves. The first phase appears to be muscular and involves an actual narrowing of the ring at the base of the valve. The second phase is hydrodynamic and re-

1. Varco, R. L., in discussion on Muller, W. H., and Longmire, W. P., Jr.: Surgical Treatment of Cardiac Valvular Stenosis, Surgery **30**: 42, 1951. Swan, H.; Forsee, J. H., and Goyette, E. M.: Foreign Bodies in Heart, Ann. Surg. **135**: 314, 1952.

2. Bigelow, W. G.; Callaghan, J. C., and Hopps, J. A.: General Hypothermia for Experimental Intracardiac Surgery, Ann. Surg. **132**: 531, 1950.

3. Boerema, I.; Wildschut, A.; Schmidt, W. J. H., and Broekhuysen, L.: Experimental Researches into Hypothermia as Aid in Surgery of Heart, Arch. chir. neerl. **3**: 25, 1951.

4. Lewis, F. J., and Taufic, M.: Closure of Atrial Septal Defects with Aid of Hypothermia: Experimental Accomplishments and Report of One Successful Case, Surgery **33**: 52, 1953.

5. Cookson, B. A.; Neptune, W. B., and Bailey, C. P.: Hypothermia as Means of Performing Intracardiac Surgery Under Direct Vision, Dis. Chest. **22**: 245, 1952.

6. Downing, D. F.; Cookson, B. A.; Keown, K., and Bailey, C. P.: Hypothermia in Cardiac Surgery, exhibit at the American Medical Association Meeting, New York, June, 1953.

7. Lewis, F. J.: Personal communication to the authors.

8. Swan, H.; Zeavin, I.; Holmes, J. H., and Montgomery, V.: Cessation of Circulation in General Hypothermia: I. Physiologic Changes and Their Control, Ann. Surg. **138**: 360, 1953.

9. Miller, F. A., and others: Respiratory Acidosis: Its Relationship to Cardiac Function and other Physiological Mechanisms, Surgery **32**: 171, 1952.

10. Swan, H.; Maresh, G.; Johnson, M. E., and Warner, G. W.: Experimental Creation and Closure of Auricular Septal Defects, J. Thoracic Surg. **20**: 542, 1950.

quires the presence of sufficient fluid within the ventricle to swing the valve leaflets into the position of effective closure. If the ventricle is filled with air, the second phase does not occur, and the valve remains partially open. Under these circumstances, the ventricle develops no head of pressure to open the outflow valves and there is no forward propulsion of either fluid or air; the aortic and pulmonary valves remain closed.

The importance of these observations in terms of air embolism to coronary arteries is obviously great. Air embolism is unlikely to occur during the period when the heart is open. The dangerous moment occurs immediately after closure of the myocardial incision and the return of blood flow. Air trapped in the heart may now be propelled forward into the peripheral or pulmonary circulations. One of the prime means of prevention, therefore, is to remove all air from the heart before closure of the myocardial incision.

The technique evolved may be described as follows. Inflow of blood into the heart is stopped by occlusion of the venae cavae. About one minute is allowed for the beating heart to partially empty itself and the pulmonary circuit. A noncrushing clamp is now placed across the aorta and pulmonary arteries at their point of exit from the ventricles. It is our intent that this clamp should actually occlude the orifices of the coronary arteries as an added means of precaution. That it does so has been demonstrated experimentally by dye injection techniques. Movement of fluid through the exit valves of course ceases at this moment. The heart is now opened, allowing the residual blood to escape and air to enter. The operative procedure is performed within the allotted time limit. Just before closure of the heart incision, the chest cavity is rapidly flooded with Ringer's solution until the entire heart lies under water. As it beats, the air escapes through the cardiac incision that lies uppermost as the Ringer's solution fills the chambers. After a few beats, it can be clearly seen that no more air is bubbling up from the heart. A second noncrushing clamp is then applied (under water) to the cardiotomy incision, closing the heart. The clamp across the aorta and pulmonary artery is now removed. The superior vena cava is released and blood flow allowed to resume. After about 30 to 60 seconds, when the heart seems to be tolerating its work load again, the inferior vena cava is released and total circulation is resumed. The cardiotomy may now be closed with deliberation. It is important not merely to try to fill the heart with Ringer's solution but to completely immerse the heart in the solution, just as one would submerge a sponge in a bucket.

REPORT OF CASES

CASE 1.—The patient was an 11-year-old cyanotic white boy who weighed 74 lb. (33.6 kg.). The clinical diagnosis of isolated pulmonic stenosis with patent foramen ovale was confirmed by catheterization. On Jan. 9, 1953, hypothermia was induced with the patient under thiopental (Pentothal)-cyclopropane-ether anesthesia. After 37 minutes, when his body temperature was 34 C, he was removed from the ice water. His lowest temperature was 28 C. A standard transventricular pulmonary valvulotomy was accomplished without circulatory occlusion. All observers agreed that the heart was unusually stable throughout the procedure. The patient had an uncomplicated convalescence.

CASE 2.—A 12-year-old white girl, who weighed 60 lb. (27.2 kg.), had cyanotic congenital heart disease due to transposition of the great vessels with an interauricular septal defect. A previous shunt operation had been done four years previously with improvement but had closed during the preceding year. At operation on June 9, 1953, hypothermia was induced with the patient under thiopental-cyclopropane-ether. After 35 minutes she was removed from the ice water, with a body temperature of 31 C. Her lowest temperature was 26 C. An intrapericardial anastomosis between the ascending aorta and right pulmonary artery was accomplished without arrest of circulation. The heart was very stable throughout. The patient had an uneventful convalescence.

CASE 3.—The cyanotic congenital heart disease of an 8-year-old white boy, who weighed 63 lb. (28.6 kg.) was confirmed by catheterization to be isolated valvular pulmonic stenosis. At operation on Feb. 19, 1953, hypothermia was induced with the patient under thiopental-cyclopropane-ether anesthesia. After 44 minutes he was removed from the ice water, with a body temperature of 39 C. His lowest temperature was 25.2 C. Circulatory arrest was accomplished by complete cardiac inflow occlusion for 7.5 minutes. Partial excision of the stenosed pulmonic valve was accomplished under direct vision through an incision in the pulmonary artery. Auricular fibrillation occurred during cooling but disappeared on rewarming to 27 C. The patient had an uneventful convalescence.

CASE 4.—The patient was a 7-year-old white boy who weighed 51 lb. (23.1 kg.). Cyanotic congenital heart disease was diagnosed as probable infundibular pulmonic stenosis associated with tetralogy of Fallot. Hypothermia was induced with the patient under thiopental-cyclopropane-ether anesthesia. After 37 minutes he was removed from the ice water, with a body temperature of 30 C. His lowest temperature was 23.6 C. Circulatory arrest was accomplished by complete cardiac inflow tract occlusion for 2.1 minutes. The patient was found to have pulmonic valvular stenosis as part of the tetralogy. Half of the stenotic valve was excised under direct vision. Auricular fibrillation occurred during cooling and disappeared when the patient was rewarmed to 26.5 C. Convalescence was uneventful.

CASE 5.—The cyanotic congenital heart disease of an 8-year-old white girl, who weighed 66 lb. (29.9 kg.), was established by catheterization to be isolated valvular pulmonic stenosis. At operation on March 10, 1953, hypothermia was induced with the patient under thiopental-cyclopropane-ether anesthesia. After 39 minutes she was removed from the ice water, with a body temperature of 30 C. Her lowest temperature was 25.7 C. Circulatory arrest was accomplished by complete cardiac inflow occlusion for 2.5 minutes. Pulmonic valvuloplasty by incision in three places was performed under direct vision. Auricular fibrillation occurred and disappeared when the patient was rewarmed beyond 26 C. Convalescence was uneventful.

CASE 6.—The patient was a 9-year-old white boy who weighed 66 lb. (29.9 kg.). The clinical diagnosis of isolated pure pulmonic stenosis was confirmed by catheterization. At operation on April 14, 1953, hypothermia was induced with the patient under thiopental-cyclopropane-ether. After 35 minutes he was removed from the ice water, with a body temperature of 30.8 C. His lowest temperature was 23.7 C. Circulatory arrest was accomplished by complete cardiac inflow tract occlusion for 2.5 minutes. Pulmonic valvuloplasty by incision in three places was performed under direct vision. Auricular fibrillation occurred and disappeared on rewarming the patient beyond 26 C. Convalescence was uneventful.

CASE 7.—A 26-year-old white woman who weighed 104 lb. (47.2 kg.) had suffered progressive disability from a large interatrial septal defect confirmed by catheterization on two occasions. At operation on April 15, 1953, hypothermia was induced with the patient under thiopental-cyclopropane-ether anesthesia. After 77 minutes she was removed from the ice water, with a body temperature of 29 C. Her lowest temperature was 22.3 C. Circulatory arrest was accomplished by complete cardiac inflow occlusion for 7.5 minutes. The large interatrial septal defect was closed with direct suture. Auricular

fibrillation occurred and disappeared when the patient was rewarmed beyond 26.5 C. She was given a smaller transfusion than would have been usual in such an operation because of fear of heart failure. Shock occurring in the recovery room was successfully combated with 1,500 cc. of blood. Convalescence was slow, with shifting arrhythmias that complicated her course. Two months later the heart was smaller, and a great increase in exercise tolerance had occurred.

CASE 8.—The cyanotic congenital heart disease of a 10-year-old white boy, who weighed 70 lb. (31.8 kg.), was established as tetralogy of Fallot by catheterization. At operation on April 21, 1953, hypothermia was induced with the patient under cyclopropane-ether anesthesia. After 45 minutes he was removed from the ice water, with a body temperature of 31 C. His lowest temperature was 24.6 C. Circulatory arrest was accomplished by complete cardiac inflow occlusion for 8.5 minutes. An infundibular stenosis was excised under direct vision. An anomalous coronary artery frustrated attempt at a larger ventriculotomy to repair the interventricular septal defect. Cardiac arrest occurred during the operation but responded immediately to massage. Auricular fibrillation occurred during cooling and disappeared on rewarming the patient. Convalescence was uneventful.

CASE 9.—A 6-year-old white girl, who weighed 41 lb. (18.6 kg.), had suffered progressive disability from a large interatrial septal defect proved by catheterization. At operation on May 5, 1953, hypothermia was induced with the patient under thiopental-cyclopropane-ether anesthesia. After 40 minutes, she was removed from the ice water, with a body temperature of 29 C. Ventricular fibrillation was noted four minutes later, and cardiac massage was instituted rapidly. Defibrillation was performed with 0.5 mEq. of potassium chloride perfused into the coronary arteries. Her lowest temperature was 22.6 C. Circulatory arrest was accomplished by complete cardiac inflow occlusion for five minutes. A large interatrial septal defect was closed by direct suture. Cardiac arrest occurred after partial closure of the pericardium. Massage and intracardiac injection of 2 cc. of 2% calcium chloride were effective in restoring normal rhythm. Convalescence was uneventful except for temporary bilateral peroneal palsy of unknown cause.

CASE 10.—Isolated pulmonic valvular stenosis without cyanosis was confirmed in a 3-year-old white girl, who weighed 34 lb. (15.4 kg.), by catheterization. On June 12, 1953, hypothermia was induced with the patient under vinyl ether (Vinethene) and ethyl ether anesthesia. After 23 minutes she was taken from the ice water, with a body temperature of 30 C. Her lowest temperature was 25.5 C. Circulatory arrest was accomplished by complete cardiac inflow occlusion for 2.17 minutes. Incision of the thick stenosed pulmonic valve was done in two places under direct vision, forming a bicuspid valve. The patient had an uneventful convalescence.

CASE 11.—The patient was a 4-year-old boy who weighed only 26 lb. (11.8 kg.). His interauricular septal defect with tricuspid regurgitation had produced a very large heart bordering on failure, in spite of digitalis therapy during the past two years. At operation on June 18, 1953, hypothermia was induced with vinyl ether-ethyl ether anesthesia. After 19 minutes the patient was removed from the ice water, with a body temperature of 29 C. His lowest temperature was 21.5 C. Technical repair of the septal defect was accomplished satisfactorily with seven minutes of inflow tract occlusion. The heart went into standstill during occlusion and shortly afterward into ventricular fibrillation. The patient was warmed to 33 C, while cardiac massage maintained the circulation. The ventricles were defibrillated with potassium. The beat, however, was never vigorous, and the patient died with a dilated failing myocardium.

11. Bing, R.: Personal communication to the authors. Dodrill, F. D.; Gerisch, R. A.; Johnson, A. S., and Hill, E.: Pulmonary Valvuloplasty Under Direct Vision: Aid of Mechanical Right Heart, read before the American Association of Thoracic Surgery, San Francisco, March, 1953. Humphreys, G. H.; Powers, S. R.; Fitzpatrick, H. F., and Lanman, B. M.: Pulmonary Valvular Stenosis: Clinical and Physiologic Studies of 25 Cases Treated by Valvulotomy, read before the Meeting of Society for Vascular Surgery, New York, May, 1953.

CASE 12.—The frail stature of a 6-year-old boy, who weighed 40 lb. (18.1 kg.), was due to a large interauricular septal defect, although he had never been in frank heart failure. At operation on June 26, 1953, hypothermia was induced with the patient under thiopental-cyclopropane-ether anesthesia. After 35 minutes he was removed from the ice water, with a body temperature of 28 C. His lowest temperature was 25.5 C. A large interatrial septal defect was sutured under direct vision during occlusion of circulation lasting 6 minutes 15 seconds. Auricular fibrillation reverted to sinus rhythm on return of circulation. The patient's postoperative course was uneventful.

CASE 13.—The patient was a 3-month-old boy who was suffering acute heart failure associated with intense cyanosis. His condition improved with digitalis and oxygen, but three days later jaundice developed, thought to be hepatic in origin. On June 26, 1953, because of his large heart and his failure to improve, he was operated on, with a diagnosis of possible pulmonary valvular stenosis. Hypothermia was induced rapidly with the patient under thiopental-ether anesthesia. After 11 minutes he was removed from the ice water, with a body temperature of 30.8 C. His lowest temperature was 25.6 C. Exploration revealed idiopathic pulmonary hypertension. No therapeutic procedure was attempted. Immediate recovery was satisfactory, but the patient subsequently died of his cardiac malformation.

CASE 14.—The cyanotic heart disease of a 28-year-old white mother of 2 children had caused progressive disability for the preceding two years. Two months before admission a right hemiplegia had occurred. Clinical diagnosis of tetralogy of Fallot was confirmed by angiocardiographic demonstration of infundibular pulmonic stenosis. At operation on July 1, 1953, cardiac standstill occurred after induction and intubation but before cooling was begun. Cardiac resuscitation was accomplished after 2 minutes 10 seconds by thoracotomy and massage. The wound was closed tightly with mattress sutures, and the patient then cooled in ice water for 47 minutes to 31 C. Her lowest temperature was 25.5 C. Cardiac arrest again occurred as the chest was being prepared for draping. The previous wound was rapidly reopened and the heart beat restored by massage at 1 minute 10 seconds. From this point on, the heart beat was remarkably stable. With circulatory arrest lasting five minutes, a tight infundibular stenosis was excised under direct vision through a right ventriculotomy. No attempt was made to close a very small interventricular septal defect. Immediately after the patient's recovery from anesthesia, cyanosis disappeared. The postoperative course was uneventful.

CASE 15.—The patient was a 20-month-old girl who weighed 18 lb. (8.2 kg.). Cyanosis during an upper respiratory infection led to the diagnosis of pulmonic valvular stenosis with patent foramen ovale. Operation was performed on July 9, 1953. Hypothermia was induced with the patient under thiopental-ether anesthesia. After 24 minutes she was removed from the ice water, with a body temperature of 31 C. Her lowest temperature was 27 C. Via an incision in the pulmonary artery, plastic revision and partial excision of the stenotic pulmonary valve was performed during circulatory arrest lasting 3 minutes 50 seconds. The patient's operative course was uneventful, and her immediate recovery was quite satisfactory.

COMMENT

These specific operations were chosen deliberately for the initial experience with human hypothermia, because the existing operations for the diseases treated have left much to be desired. As experience has accumulated in various clinics, it has become increasingly clear that the transventricular incision and dilatation of the stenosed pulmonary valve has given very disappointing objective results.[11] It is true the immediate clinical results are excellent. But surgeons who have studied, by actual measurement, the residual right ventricular pressure weeks or months following operation in these same patients have found a disturbing number in whom this pressure is still

markedly elevated, that is, a systolic pressure of 70 mm. Hg or more. This is a level approximately three times normal, and, although it is lower than it was preoperatively, it is still pathologically elevated. One cannot predict a normal life span for such a patient. It seems desirable, therefore, to attempt a more complete plastic revision of the valve, a maneuver easily made possible by the direct vision technique.

Resection of infundibular stenosis blindly with rongeurs has not appealed to many surgeons. Resection of a precise area under direct vision associated with the additional possibility of closing the ventricular septal defect in tetralogy of Fallot offers the potentiality of actually curing the patient of his intracardiac defects. Clearly, if the procedure is feasible and safe, this would be an objective superior to the addition of a shunt. Resection of the stenosis is not unduly difficult, but closure of the septal defect may prove more arduous.

The operations currently available for interauricular septal defects are all blind manipulations and carry a significant operative risk.[12] Certain types of defects, particularly septum primum lesions overlying the valves, are not amenable to treatment by these methods. An open operative approach to this problem seems worthy of trial.

To date, we have used cooling with cessation of circulation primarily in children, only two patients having been adult. There is good experimental evidence that the young tolerate this procedure with greater safety than the older age group. We hope to establish the safety of the procedure in this younger age group before proceeding to expand slowly into adult ranges.

We believe it is desirable to cool the patients as rapidly as possible, perform the procedure, and then warm to near normal temperatures at once. Cardiac irregularities occur with great frequency in these sick hearts at levels below 28 C. Auricular fibrillation, although common in the human patient, is not a matter of great concern, because, in our experience, if it occurs during cooling, a sinus rhythm will always return at approximately the same temperature during rewarming. Ventricular fibrillation has occurred twice but was successfully reverted on both occasions by the use of potassium. In one patient, however, sustained spontaneous beat could not be subsequently obtained, we believe, because of cardiac dilatation and myocardial failure. This was the only operative death in the series.

The importance of an adequate exposure of the heart and great vessels for this type of procedure must be emphasized. It is essential that all sides of the heart, the superior and inferior venae cavae, the ascending aorta and pulmonary artery, and the lung roots be readily reached. For this, in our experience, there is no incision equal to the bilateral transverse sternal-cutting intercostal incision in the fourth interspace. Although long, the incision involves the removal of no part of the thoracic skelton, is well tolerated by the patient, and heals quickly, with minimal postoperative discomfort.[2]

SUMMARY AND CONCLUSIONS

Fifteen patients have undergone cardiac operations while they were in a state of hypothermia, with body temperatures ranging from 21.5 to 26 C. In 13 of these patients, circulation was stopped for periods varying from 2 to 8½ minutes, and the operation was performed in the open heart under direct vision. There was one operative death in this group. The remainder of the patients have had excellent clinical results, save one on whom no therapeutic procedure could be performed.

Hypothermia was induced during anesthesia by immersing the patient in a tub full of ice water; warming was also achieved in the tub with warm water. Speed of cooling depended largely on body build; the less obese patients cooled more rapidly. Prevention of shivering and hyperventilation were very important aspects of the cooling technique. Potassium appeared to be a valuable agent for combating ventricular fibrillation in the cold patient. The prevention of coronary artery air embolism was of great importance and was achieved by a combination of maneuvers, of which one of the most important was complete immersion of the heart in salt solution at the time of closure of the cardiotomy.

Direct vision intracardiac surgery should be further explored and possibly expanded in scope, since cessation of circulation in the presence of hypothermia allows an essentially bloodless field, with reasonable safety for periods up to at least eight minutes. It is surprising how much can be deliberately accomplished in this period of time. Various forms of pulmonic stenosis in nine patients and interauricular septal defects in four have been successfully repaired by this technique. Other stenotic or regurgitant valve lesions and defects of the ventricular septum may also prove to be amenable to therapy.

4200 E. 9th Ave. (7) (Dr. Swan).

12. Gross, R. E.; Watkins, E., Jr.; Pomeranz, A. A., and Goldsmith, E. I.: Method for Surgical Closure of Interauricular Septal Defects, Surg., Gynec. & Obst. **96**: 1, 1953. Swan, H.: Surgical Closure of Interauricular Septal Defects, J. A. M. A. **151**: 792 (March 7) 1953. Bailey, C. P., and others: Congenital Interatrial Communications: Clinical and Surgical Indications with Description of New Surgical Technique: Atrio-Septo-Pexy, Ann. Int. Med. **37**: 888, 1952.

Living.—It may well be true that we have from necessity directed most of your time to vocational training and that we have not paid much attention to training you how to live. The graciousness of life has perhaps been blurred by the overriding necessity of acquiring efficiency and of keeping abreast of scientific progress. We may thus have given you too little time to cultivate a sense of beauty, to quicken your appreciation, and to improve your discrimination between things which are good and those which are not. That is not necessarily the case, but even if it were, it is fortunately not too late to remedy it. You must not only keep in touch with the literature in your own and related subjects, but you would also be wise to take such interest as you can in literature in general, in music, and in art. History is the great opener of doors and you will find that the history of your own subject will give you an insight into the development of man and his problems, and add interest and colour to your life. Getting a wider knowledge of man and the world he lives in, of his arts and crafts, of his philosophy and religions, and obtaining some acquaintance with the thoughts and ideas of the great scholars and scientists of the past will provide you with a well-furnished mind which, when the emotional side of your life becomes of lessening importance and your work is not the all-in-all that you think it is now, will be a source of comfort and delight.—Sir Sidney Smith, valedictory address delivered at the graduation ceremony in the McEwan Hall, Edinburgh, on July 15, 1953, *The Lancet*, Sept. 5, 1953.

MERITS OF THE PRESENT CORONER SYSTEM

STATISTICAL COMPARISON WITH THE MEDICAL EXAMINER SYSTEM

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Many articles have appeared in recent years, in both lay and professional journals,[1] recommending more widespread use of the medical examiner system of medicolegal investigation. With this stimulus, numerous moves have been made to supplant the coroner system, just as is now occurring in California.

It is felt, however, that many of the conclusions drawn and references made relative to the coroner system are taken from sources long outdated. Issue is often made of the fact that the office of the coroner dates back to the time of Henry IV, and the function of the office in that era is described in considerable detail. This would seem to have little or no bearing in a factual analysis of modern coroners' offices. Repeatedly, the very unfavorable report of the National Research Council is offered as evidence of the inadequacies of the coroner system. This report, the last to deal in facts rather than generalizations, was made in 1928 [2] and enlarged in 1932.[3] Since that report was made 21 years ago, any conclusion drawn from it would have little application in a review of the operation of present-day coroners' offices and should not be permitted to reflect in any present determination of the need for a change.

While the conduct of coroners' offices in some of the large metropolitan centers, in years past, may have warranted a change, which did indeed lead to improvement, there should be evidence showing that any given locality has actual need for such a change before it is undertaken.

SYSTEMS DESCRIBED

Varying somewhat with the local laws, the coroner, or his deputy, investigates the cause and circumstances of all deaths from unnatural causes, such as by violence, injury, or criminal means, or from unknown causes. The coroner may, at his discretion, order autopsies or other scientific procedures. Further, he may subpoena witnesses to appear at an inquest, at which time the facts and events related to the death are recorded. If a crime is suspected by the jury, appropriate criminal proceedings are instituted independently of any other law enforcement agency; thus an accused is brought before a judge.

The medical examiner, similarly subject to variation in local laws, investigates all deaths that occur under the circumstances listed above, and the purposes and goals are the same as those of the coroner.

Minor differences are to be found between the two systems in the mechanics and administration of the medicolegal investigations. There are three main diferences. 1. Medical examiners require that a physician investigate the scene of death, while coroners use trained deputies. 2. The chief medical examiner who directs the activities of his office must be a physician, while coroners who have similar supervisory activities may be laymen. 3. The medical examiner does not hold inquest proceedings; thus he has no direct authority to bring an accused before a judge. He refers his findings to the district attorney who, in turn, may or may not take action according to his own view or wish.

These differences apparently lead to the only major and important difference, that is, the relative effectiveness with which each system reaches the desired end. That end is the discovery of the true cause of death and the administration of justice. Whether a system is or is not accomplishing that end is not a matter for sheer speculation but requires careful statistical evaluation. This study, based on current statistics, compares California coroner jurisdictions with various of the medical examiner jurisdictions. It may serve as a guide in pointing out the need and available methods for critical review of the existing program in any area contemplating a change.

COMPARISON OF AUTOPSY RATES

Recently, the Council on Medical Education and Hospitals of the American Medical Association has directed [4] that "No hospital will be approved for intern training which does not maintain an autopsy rate of at least 25% of its deaths." The council continues, "The necropsy rate has come to be recognized as an index of the scientific interest of the medical staff."

The quality and thoroughness, as well as the scientific interest, in medicolegal investigation is similarly reflected by the percentage of autopsies done to correctly establish the cause of death. This is particularly true if one considers that all deaths requiring medicolegal investigation occur under doubtful or unknown circumstances, whereas in hospitals there is almost always some study before death occurs.

Table 1 is taken from statistics available as far back as 1949. While the figures from the various communities are not all for the same year, they are for the last available year and are within the period 1949-1952. This is deemed representative, since such figures do not change by more than 1 or 2% from year to year.

Any case falling within the jurisdiction of medicolegal authority has, by definition, a very real element of doubt. It is difficult to conceive that the true cause and all contributory factors in these deaths by violence, injury, or unknown causes can be ascertained when, as in some jurisdictions, in 60 to 80% of these cases the cause of death is established from history and inspection without an autopsy. That in one jurisdiction autopsies were per-

Coroner, City and County of San Francisco.

1. (*a*) Regan, L. J.: Forensic Medicine as a Specialty, Ann. West. Med. & Surg. **4**: 444-447 (Sept.) 1950. Ford, R.: Medico-Legal Investigation of Sudden Death, ibid. **4**: 466-469 (Sept.) 1950. (*b*) Vance, B. M.: Statistical Review of the Medical Examiner System, Am. J. M. Jurisprudence **2**: 243-248 (July) 1939.

2. Schultz, O. T., and Morgan, E. M.: The Coroner and the Medical Examiner, Bull. Nat. Res. Council, no. 64, Washington, D. C., July, 1928.

3. Schultz, O. T.: Possibilities and Need for Development of Legal Medicine in the United States, Bull. Nat. Res. Council, no. 87, Washington, D. C., Oct., 1932.

4. Revision of the Essentials of an Approved Internship, editorial, J. A. M. A. **151**: 561 (Feb. 14) 1953.

formed to find the correct cause of death in only 3% of these doubtful cases is an almost alarming finding.

Coroners, often laymen, are said perhaps to order more autopsies than are necessary. While they obviously order more, it cannot be said that these are not necessary. Some believe that medical examiners can oftener establish the cause of death without an autopsy because they are physicians and because they go to the scene to inspect the body and surroundings. We know, however, that every physician knows of occasions in which a preliminary opinion, made after considerable antemortem study, was proved wrong at autopsy. It is doubtful that anyone, physician or not, can safely establish the cause of death in a medicolegal case without an autopsy, except in a relatively few instances.

To establish this point exactly, I have utilized the records of the San Francisco coroner's office in which autopsies are performed in 99% of coroner's cases. Five-hundred consecutive cases that fell within the coroner's jurisdiction were reviewed. In 379, death occurred without medical attendance or the physician in attendance was unable to state the cause of death. In the remaining 121, a private or hospital physician was in attendance at the time of death, and he was sufficiently acquainted with the case to offer a final diagnosis. These were nonetheless coroner's cases because (under California law) the physician was not in attendance long enough, the death involved violence or injury, or some suspicious circumstance was apparent to the coroner. Of the 121 cases in which the physician gave the final diagnosis, that diagnosis was incorrect in 54 (45%) of the cases. In fact, in 35 of these 54 cases, the site of the condition causing the death was in an organ or organ system other than that designated by the physician. Examples of incorrect diagnosis would be when death is found at autopsy to be due to pulmonary embolism rather than to pneumonia or when death is due to a subdural hematoma rather than to a spontaneous cerebrovascular accident. Examples of incorrect organ or organ system diagnosis are when death is due to brain tumor instead of coronary occlusion or when death is due to hemoperitoneum following intra-abdominal injury rather than to perforated peptic ulcer.

It is recognized that antemortem studies in these cases are made under such trying circumstances that the errors in diagnosis are not unreasonable or in any way a reflection on the capabilities of the physician. The fact presents itself, however, that, if these same physicians had attempted to arrive at diagnoses without autopsy on the other 379 coroner's cases in question, it would seem certain that the percentage of incorrect diagnoses would be even greater than 45%, since there was usually no antemortem study and the physician would have only the history and an external inspection to rely on. It is doubtful that a medicolegal officer, even though a physician, is a more capable diagnostician than any other physician or that he can, merely by inspection and review of the history, reach correct diagnoses with a significantly smaller percentage of error.

In the light of the foregoing figures, any physician who establishes the cause of death in a medicolegal case, without an autopsy, runs a chance almost half of the time that his diagnosis is in error. Except that they contribute to erroneous vital statistics, the majority of such errors are of relatively little consequence in the ordinary course of events, and the mistakes are safely, although not properly, buried with the body. While the medicolegal officer's mind may rest free in the knowledge that his is the last word and that he is not likely to be questioned, this is false comfort. As long as he relies solely on his judgment of the history and the inspection of the body, he must realize that he will continue to establish the cause of death erroneously in a certain percentage of cases. Not until autopsies are performed in all of these medicolegal cases will he become fully aware of the importance of such thoroughness. Only then can he truly see that great numbers of these errors are not purely academic but that they reflect seriously in the lives and

TABLE 1.—*Comparison of Autopsy Rates in Coronor and Medical Examiner Jurisdictions*

Coroner System *	Total Deaths in Area in 1 Yr.	Total Medicolegal Autopsies Performed in 1 Yr.	Medicolegal Autopsies, % of All Deaths	Cause of Death Established by Medicolegal Officer in 1 Yr.	Medicolegal Cases in Which Cause of Death Established by Autopsy, %	Area, Sq. Mi.	Yr.
San Francisco County	9,754	2,340	24.00	2,364	99	45	1952
Marin County	608	160	26.00	174	92	521	1952
Alameda County	7,663	1,008	13.00	1,373	73	733	1952
Los Angeles County	41,217	4,226	10.00	7,539	56	4,071	1949
Contra Costa County	1,501	451	30.00	454	99	734	1952
Tulare County	1,030	122	12.00	332	37	4,835	1952
San Joaquin County	2,211	576	25.00	641	90	1,410	1951
Riverside County	1,725	212	12.00	478	44	7,179	1949
Solano County	725	218	30.00	264	80	827	1952
State of California	103,816	13,486	13.00	21,486	62	156,710	1949
Medical Examiner System							
New York City †	79,082	4,736	6.00	16,268	29	308	1950
City of Baltimore ‡	11,327	802	7.00	2,145	38	79	1950
State of Maryland ‡	22,871	1,200	5.00	4,358	27	12,327	1950
Milwaukee County, Wis.§	9,483	139	1.00	1,298	10	169	1952
State of Rhode Island ‖	8,248	71	0.01	2,141	3	1,248	1952

* From the individual annual reports published by each of the counties listed.
† Statistical Report of the Chief Medical Examiner, City of New York, 1950, and personal communications to the author.
‡ 12th Annual Report of the Department of Postmortem Examiners, State of Maryland, 1950.
§ Personal communication to the author from the Deputy Medical Examiner, Milwaukee County, Wisconsin.
‖ Personal communication to the author from the Chief Medical Examiner, State of Rhode Island.

welfare of many persons. Such errors in diagnosis weigh heavily in criminal and legal considerations and can lead to grave mistakes in the administration of justice.

There have been many instances in which all the external evidence and the history gave every justification for presuming a natural death and in which the cause of death was evident from the antemortem signs and symptoms. But, by virtue of routine autopsy, the causes of death in these cases were found not to be natural; some were due to accidents and some to crimes. Often, the need for investigation or criminal prosecution was not recognized until after the autopsy. Had these cases not been discovered by routine autopsy, the errors would never have been noted and the truth would have been buried.

It should be apparent that any case doubtful enough to warrant a medicolegal investigation deserves an autopsy. Autopsy should always be done if there are legal grounds to authorize it. This view is held to assure

TABLE 2.—*Cases Referred for Laboratory Tests**

	Number Coroner or Medical Examiner Cases †	Number Referred for Laboratory Tests	Per Cent Referred for Laboratory Tests
County or Private Laboratories			
San Francisco ‡	2,364	1,131	48
Los Angeles County ‡	7,539	2,387	31
Alameda County ‡	1,373	332	24
State of California ‡	21,468	4,129	17
State Laboratories			
New York City §	16,268	4,511	27
State of Maryland ‖	4,358	801	18
State of Rhode Island ¶	1,399	84	6

* Laboratory tests include those for blood alcohol, poisons, blood typing, and so forth but do not include microscopic study of tissue sections.

† Coroner or medical examiner cases are those in which the death certificate is signed by the medicolegal authority after he has established the cause of death.

‡ From the individual annual reports published by each of the counties listed.

§ Statistical Report of the State Medical Examiner, City of New York, 1950, and personal communications to the author.

‖ 12th Annual Report of the Department of Postmortem Examiners, State of Maryland, 1950.

¶ Personal communication from the Chief Medical Examiner, State of Rhode Island.

that crimes or misadventure will not be overlooked and to make certain that anyone who may now or later be suspected of having perpetrated a crime will not be falsely convicted because of inadequate investigation. If the state assumes the right to judge and punish persons for crimes or negligence, it has a far greater obligation to insure that no one is falsely or unjustly punished. No trouble or effort is too great to assure this last point, and no one can be so wise that he unfailingly arrives at a proper conclusion simply by deduction or inspection.

The basic and prime purpose of a medicolegal office is the determination of the true cause of all deaths and the assurance that justice is done. It is also safe to presume that the lower the autopsy rate, the greater the number of gross errors and, therefore, grave injustices and, indeed, the less likely is the office to achieve its prime purpose and objective. Figures on autopsy rates are readily available. While not previously done, they can and should be used as an indication of the proper and satisfactory functioning of medicolegal investigative systems because they offer clear evidence of relative merit.

USE OF LABORATORIES

It is frequently urged that a change to a centrally controlled, statewide system would increase the number of laboratory tests done by making the central state offices available to outlying communities.[5] To weigh this matter, let us examine and compare the extent of utilization of laboratory procedures in California (many of which are done in private laboratories throughout the state) with other jurisdictions using state-operated central laboratories.

By studying table 2, a proper analysis can be gained by comparing one city with another or one rural area with another, since land area served is a vital factor. One should note, therefore, the percentages in San Francisco and New York or, on the other hand, Los Angeles County and the State of Maryland.

It is generally taken for granted that a state-supported medicolegal laboratory is available without specific charge to any authorized public officer requesting its services. One presumes then that it would be very freely used, certainly more than if the public officers had to call on private laboratories on a fee basis. Interestingly enough, the California coroners' jurisdictions, in great part using private laboratory facilities on a fee or contract basis, have availed themselves of laboratory procedures oftener than the medical examiner jurisdictions that use state-supported laboratories. It need not be said, therefore, that a state-operated laboratory will, as a foregone conclusion, be used more frequently.

Similar studies in other states might be equally revealing. It is only after painstaking statistical analysis that an appropriate decision can be reached. Too often in these matters, conclusions have been drawn from generalizations rather than facts, and these conclusions have gained acceptance purely by virtue of repeated public utterance. A more reasonable approach would be to make a study and, thereafter, to support and encourage whichever system is found to actually employ scientific methods most frequently.

Volume of laboratory work is not, in itself, sufficient cause to justify it. There is, however, a relationship between the amount of laboratory work done and the number of positive findings. Table 3 shows the importance of adequate amounts of laboratory work in establishing the cause of death. It can be seen from the third and fifth columns of table 3 that, roughly, the higher the percentage of doubtful cases tested, the higher the percentage of correct causes of death.

It is interesting, for example, that in San Francisco deaths by barbiturate poisoning are approximately four times as frequent (per unit population) as in Maryland. There are no apparent factors such as population, racial differences, or variations in state hypnotic laws that would account for so wide a discrepancy. It will be noted, however, that in San Francisco tests for barbiturates were made approximately four times as often as in Maryland. In fact, there is a sufficiently close relationship between the percentage of cases tested and the number of positive

5. Ford, R.: Medicolegal Investigation of Sudden and Unexplained Deaths, J. A. M. A. **145**: 1027-1030 (April) 1951. Gradwohl, R. B. H.: Should the Office of Coroner Be Continued, Ann. West. Med. & Surg. **4**: 491-494 (Sept.) 1950.

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findings that increasing volume of laboratory testing is to be favored.

It is inherent in the nature of his work that a medicolegal authority be suspicious. This attitude of suspicion is a measure of his desire to do his work carefully and thoroughly. These suspicions, when once held, can best be dispelled and a proper finding made by use of appropriate scientific procedure as has been shown here. Thus, an index of the worth of a medicolegal investigative office or system may be determined, again, by an inquiry into the frequency of use of laboratory procedures in establishing causes of death. This has heretofore not been generally done.

AREAS INVOLVED

No state of any great size has undertaken a statewide medical examiner system. New York, with 26 years' experience, has confined its medical examiner system to metropolitan New York City, while the remainder of the state is on local option. Maryland has a statewide system wherein one sees that the autopsy rate in Baltimore is 37%, while in the remainder of the state it is 18%. The state of Maryland (12,000 square miles) is about one-half the size of San Bernardino County in California. If the more rural the area the fewer the autopsies, one might wonder how low the percentage would drop if the Maryland medical examiner system were applied to the 20,000 square miles of San Bernandino County or to the 157,000 square miles of California. The size of the area to be covered by a centrally dominated statewide system is indeed deserving of consideration. The mechanics and function of the coroner system appear to be better adapted to large land areas. This is evidenced by the finding that the autopsy rate in California is at least 2 times and as much as 20 times greater than in areas of medical examiner jurisdiction that cover smaller rural areas and on which statistics were available (table 1). A central controlling state agency, such as a medical examiner system, will not necessarily improve medicolegal investigation, particularly if large land areas are involved. It is quite likely, in fact, that such control would lead to deterioration. It would be worth while to speculate on the reasons.

The medical examiner system requires that investigation at the scene of death be made by a physician. In an area as large as California, for example, it is only with some difficulty that physicians are found who will travel over large counties to do the required autopsies, let alone go beforehand to the scene of every death occurring by violence or injury or under doubtful circumstances. Furthermore, if a physician goes to the scene of death to view the body and then orders an autopsy, he must wait for the body to be moved to some convenient place and then travel to that place, again over great distances, to perform the autopsy. It can be said, and the statistics support, that this tends to markedly increase the number of cases signed out on the basis of history and circumstances and without benefit of autopsy. This is not conducive to impartial scientific investigation into the causes of death.

The medical examiner laws generally direct that autopsies be done by certified pathologists, at least in the larger centers. This is indeed a commendable principle, but one should consider that, after passing statewide legislation enacting such a law (in itself no simple task), one might find the law impossible to fulfill. It would be well for any community contemplating such moves to inquire into the present need and, further, into the practicability of fulfilling the law once it was enacted. The results can be as surprising as they were under the California coroner system in which the following situation was found.

San Francisco has had a physician as coroner for 40 or more years, just as at present. Two of the autopsy surgeons are board certified, and the third is board eligible. The pathologist who reviews autopsy findings by gross and microscopic sections is also board certified. The toxicologist is a physician and has a Ph.D. in pharmacology. Five of the six physicians on the staff are engaged in teaching in their respective fields and in medicolegal courses at the local medical schools. In Los Angeles, where the coroner is a layman, autopsy surgeons are required to be graduates of approved medical schools, to have done an interneship, and to have had at least two years' training in the various fields of pathology or legal medicine. Marin County, across the bay from the two San Francisco medical schools, has a mortician as its coroner. Significantly, 92% of the cases for which he signs the death certificate have had the cause of death established by an autopsy done by his staff of two pathologists, both board certified. Alameda County, also across the bay from the medical schools, has a layman as coroner. He orders all autopsies and laboratory work to be done by certified pathologists. The situation is similar in many nearby counties.

TABLE 3.—*Comparison of Percentage of Deaths Found Due to Barbiturates*

	Coroner or Medical Examiner Cases	Cases Tested for Barbiturates	Cases Tested, %	Deaths Due to Barbiturates	Deaths Due to Barbiturates, %	Yr.
San Francisco	2,364	161	7	67	2.8	1950
Los Angeles County	7,539	216	3	160	2.0	1952
New York City	16,268	812	5	216	1.3	1950
State of Maryland	4,358	75	2	25	0.6	1950

Whether or not these autopsy examinations are done by qualified pathologists seems to depend on whether such men are available. Coroners, whether physicians or laymen, obviously recognize the merit of employing qualified personnel. This is evidenced by the fact that coroners' judisdictions containing over one-half of California's population (approximately 12 million) now have all coroner's medical investigations carried out by certified pathologists. The question then arises as to whether legislation might not provide certified pathologists for the more rural areas. There are approximately 125 pathologists in the state; most of these are in the metropolitan areas, and many or most of them would not be interested in medicolegal autopsy work under any circumstance. It is obvious that there would not be enough pathologists to go around and that the quantity of work in any given rural area would not justify the presence of a pathologist. Thus, in these areas, the work would still be done by whichever physician agrees to do it. As has been shown in table 1, these physicians can continue to

do the work far better than has been generally recognized or admitted, provided, of course, that they do not become burdened with an endless series of trying and ultimately useless trips to the scene of many deaths. Experience shows further that by and large the men in rural areas solicit aid and advice from more experienced men when they find it necessary or advisable in doing autopsies, and assistance seems to be willingly given.

PHYSICIANS AS INVESTIGATORS

Coroners generally have a staff of lay investigators who make the "at the scene" investigation into criminal and evidential aspects of the case. These men spend all of their time at this work; most of them make a career of it. As a result, their investigations are generally very patiently and painstakingly done, certainly more so than those made by physicians most of whom consider such investigation secondary to their prime interest and training, namely, medicine. While the medical examiners require that such investigation be made by a physician, it is not clear what part of a physician's training particularly qualifies him to investigate these criminal and evidential matters.

Furthermore, with no intent to dramatize, but yet to be frank and practical, the physician must be very rare who, as a required part of the "at the scene" investigation, would routinely slip his hands into the urine-stained and feces-stained clothing of dead persons in search of identification, personal effects, notes, or other evidence. He must be rarer still who would with regularity make a detailed and exacting search of the body and the premises in which was found a reeking, vermin-infested corpse, which may or may not be liquefying. These actually are not uncommon findings. In the eyes of most physicians, whether autopsy surgeons or not, these cases are unpleasant enough at the autopsy table, and they are not eager to go to the place of death to examine and inspect before a preliminary preparation of the body has been made. It is not suggested that there are no physicians who can and will do this work. While most physicians have, on occasion, faced and coped with situations such as just described, the considerable point arises as to whether they would make this a daily routine. Physicians who would be willing would be difficult, if not impossible, to find and keep at the job.

On the other hand, there is an adequate number of lay investigators whose need and pride in the position is sufficient enough to enable them to tolerate the more unpleasant aspects, however distasteful. Such thorough and painstaking investigation as described is essential, even under the most trying circumstances, if all the information available at the scene is to be found.

Some propose that investigating the criminal and evidential aspects of any case should be a police function, since it does not fall within the province of medicine. First, the average policeman would be unwilling or incapable of bringing himself to make an adequate examination in many cases. Second, he might see only two or three coroner's cases a year and thus be wholely unqualified. If the police are to assign one or more men to make all these investigations, then it would be better for them to work under the supervision of the coroner so that their work would be properly directed. In this case, they might as well be called investigators and be in the coroner's direct employ, as they already are. Above all, if one fully understands the purpose of the coroner's office, he can see that the coroner's investigation is not, and should not be, a police function.

CORONER'S INQUEST

A study of the laws relating to the duties and powers of the coroner indicates that he must make an independent investigation into the cause and circumstances of certain deaths, order necessary medical examinations, and then conduct an inquest. At the inquest, the testimony of the various witnesses and investigators is heard along with the medical opinions or conclusions drawn by the autopsy surgeons. From this the jury decides whether there is a suspicion of a crime connected with the death. If the jury finds reasonable cause to suspect that a crime has been committed and so states in its verdict, a warrant is issued for the person charged with the crime, if he is not already in custody, and he is then brought before a judge. (It should be understood that the verdict of a coroner's jury brings charges only; it is not a conviction or in any way a proof of guilt.)

These functions seem to duplicate quite closely the activities of the police investigation, the district attorney's presentation of the evidence to the grand jury, and the grand jury's indictment that brings the accused before a judge. Since the coroner also investigates and presents the evidence to a jury and the jury orders the accused to be brought before a judge, it should be apparent that those who wrote the laws intended that a lay body, composed of coroner and jurors, carry out this combined function as a means of checks and balances for the various law enforcement agencies, at least in the matter of major crimes. The coroner and coroner's jury serve as an auditor and give assurance of an investigation and ultimate prosecution of crimes within its jurisdiction. To be sure, this is not done with the legal exactness of the aforementioned groups, and quite appropriately the verdict of a coroner's jury does not bear the weight of that of a grand jury. Nonetheless, should either the police or public prosecutor wilfully or inadvertently fail to act or, for their own reasons, should they fail to bring charges and prosecute fully, an independent body (coroner and coroner's jury) will act in their stead and bring the case before the courts. This is no reflection on these agencies but is a customary procedure at all levels of government. To do away with the inquest would be to lose the continuing audit of these most important activities. This function is too valuable and necessary to be cast aside simply because it does not fall within the province of medicine, particularly since it takes but 5 to 10% of a coroner's time and accounts for an estimated 5 to 10% of the total office expenditure. Further, equally important public services contributed by the coroner's inquest are many and will be the subject of another paper.

It is unfortunate that the medical examiners have failed to recognize the purpose and valuable contribution of the coroner's inquest. They have done away with it principally because it does not fall within the realm of medicine and partly because of lack of understanding of its function in government.

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Proponents of the medical examiner system have stated that "for the cause of death to be determined by a jury is ludicrous." [1b] From such reasoning, one can presume that all jury proceedings at which medical evidence is given must be equally ludicrous. This, however, is not true. Firstly, the coroner's jury does not determine the medical cause of death. Secondly, there is no reason why a coroner's jury, just as any other jury, after hearing the autopsy surgeon's opinion on the medical causes of death and then the testimony of coroner's investigators, inspectors, police, and lay witnesses, should not thereafter be capable of deciding, let us say, whether or not the death was caused by a particular suspect or perhaps by an automobile that was or was not driven negligently. They are, for example, fully capable, after appropriate testimony, of deciding whether a death was accidental or intentional. Many of these and similar decisions are of considerable social significance and certainly of grave importance to the persons and families concerned. The belief that only a physician can make these decisions is presumptuous, fallacious, and not at all in keeping with the well-accepted concepts of our judicial system. If the jury fails to comprehend the medical findings sufficiently to arrive at a reasonable decision, this reflects the inadequacy of the physician presenting the findings or his lack of fidelity to his duty. It by no means suggests that the principles of the system are at fault.

CORONER'S JURIES

Coroner's juries are as excellent and qualified as the coroner chooses to have them. In San Francisco, for example, jurors are obtained from large and small business firms by having employers designate persons from their staff for jury duty. Since each jury is impanelled for one morning only and since any one firm is called upon but once a year, the request for a capable, thinking person as a juror is always met. The juries represent a good cross section of the public made up of intelligent and interested men capable of reasonable decisions.

The verdicts of the jury are not and need not be in any way directed by the coroner. Presenting evidence and testimony impartially can be done in such manner that a body of reasonable men can arrive at a just and proper decision. Any departure from such procedure can only be the result of a lack of interest or integrity on the part of the particular coroner. This should not be construed as a failing of the system but of the coroner himself. This lack of interest does not appear prevalent in California nor necessarily to any greater extent than would be the case if all coroners were physicians. In any event, the failings that might be found in a coroner's inquests or juries should be treated as individual problems that certainly are amenable to correction. The complete discard of the inquest, as a solution to these relatively minor problems, seems a drastic and ill-advised step. However trite it may sound, we should not be so foolish as to cut off the head to cure the headache.

It is said that, "all the problems associated with the internal administration of a medical examiner's office are a direct heritage from the coroner system." [1b] This reminds one of the rationalizing mother who believes that surely all of her child's failings and inadequacies stem from the husband's side of the family and who happily attributes all the child's favorable qualities to herself. One should remember that the only essential difference between a good coroner's office and a good medical examiner's office is that, in the latter, physicians make the "at the scene" investigations and, also, inquest hearings are not held. Otherwise, the actual conduct of the two offices is similar. It is small wonder, then, that the problems of internal administration of the two offices are alike. And, most importantly, it is apparent that the change to the medical examiner system has not solved these problems. It is enough to say that untiring efforts are needed in both offices to eliminate these problems.

CORONER'S LAWS

The laws in California are complete and adequate. A careful comparison with laws governing the various medical examiner systems reveals no significant differences. The type of case and circumstances surrounding deaths that legally require investigation are virtually identical. In California, the coroner is free to decide in which cases autopsy shall be performed. Not all medical examiners enjoy this freedom to investigate impartially and independently; some must obtain permission to proceed from other law enforcement agencies. This very important principle of independence of action should be maintained to provide a medicolegal system of force and value.

PHYSICIAN OR LAYMAN AS CORONER

The question arises whether it should be required that all coroners be physicians. It is my opinion that such a requirement would be advisable. While the many lay coroners are doing a creditable job, a large proportion of the coroner's work, in addition to being supervisory, deals with medical matters. In most jurisdictions, it is best to have a common direction of medical, technical, and investigative personnel in order to integrate their various activities. This could most easily be done by someone trained in the medical sciences. While all "at the scene" investigation need not, and perhaps should not, be made by a physician, the work of the autopsy surgeon, toxicologist, pathologist, and technician is better understood by a physician and thus better integrated into the investigation. For these reasons, the work should be overseen by a coroner who is a physician.

It is often held that a lay coroner who is a good administrator can do an adequate job if he seeks and engages competent medical guidance. This is true, but, if one can find a physician who also is a good administrator, the approach is more direct and effective and, to be sure, more economical. It is mainly for these last reasons that a physician is recommended for the position of coroner.

Juries often require guidance on medical matters. While it is safe to say that the reading of a medical report will be comprehended by the jurors if set forth by the autopsy surgeon in appropriate language, it is a considerable advantage if the report is actually presented by a physician who can answer any questions or dispel any doubts as they arise in the minds of the jurors. Many cases heard at the inquest involve the testimony of physician witnesses who may have been in attendance before the death. It is important to have the questioning

of the physician witness done by a physician in order to clarify issues and to assure proper and comprehendable testimony.

If a physician can be found who is willing to assume the supervisory activities of a coroner and who has the requisite administrative ability, he should be encouraged to seek appointment to the office. The matter of obtaining qualified and interested physicians should be seriously considered in each instance in which the recommendation is contemplated, and availability and interest of such physicians should be ascertained before the requirement is made.

CHANGES RECOMMENDED

1. The medical profession, through enlarged teaching programs in the medical schools and through the local county medical societies, should stimulate interest and encourage physicians to take active part in the coroners' offices and, when possible, to seek office.

2. On a local basis in areas in which the population and physician census permits, legislation should be encouraged requiring that the coroner be a physician. This does not need to be a radical upheaval and can be done in an orderly manner. Some jurisdictions now have physicians as coroners; others may have them as the need and determination presents. Local legislation, when the circumstances are proper and when physicians are available, is far more likely and practical of attainment than is an over-all change to a statewide system, which is of doubtful value and which would require a constitutional amendment.

3. Coroners and autopsy surgeons should be encouraged to use laboratory facilities even more than they now do in medicolegal investigation. While California already has a state-operated central crime laboratory available to all coroners, a large proportion of coroners' laboratory work in rural counties is done by contract with private laboratories. Since this method now functions satisfactorily and is used more frequently than are the state-operated laboratories in other systems, it should be encouraged rather than discouraged, as long as it continues to work well.

4. The number of autopsies in medicolegal cases, by and large, is inadequate to assure that errors and injustices in medicolegal investigations do not occur. Medicolegal officers, by whatever title, should be urged to increase autopsy rates.

5. Commensurate with the scientific and intellectual requirements of the office, salaries should be set that will attract men with optimum qualifications. In so doing there would be, in each area, a larger number of applicants from which to choose, and the office would have added interest, perhaps sufficient to attract qualified men out of other presently better paid positions.

SUMMARY AND CONCLUSIONS

Before moving to change from the coroner system employed in any given area, it is suggested that the existing program be carefully examined on a statistical basis. The need for factual study is demonstrated by a survey made in California that shows that the work done under that coroner system surpasses in quality and amount that done under any other system on which statistics are available. This had been generally unrecognized and can be revealed only after careful, detailed analysis. The use of a similar approach should be utilized in any community contemplating a change.

Many of the papers by proponents of the medical examiner system draw from long outdated sources for evidence in support of their recommendations for a change. Dealing only in generalities and having no published factual surveys more recent than one made in 1928, the decisions made on such evidence can be misleading and would have little or no bearing on determining a need for a change in 1953. On the basis of current findings in the coroner jurisdictions studied, a change to medical examiner system would be mainly in name only, since the basic operating principles are virtually identical in each system. The coroner system, in addition, has an advantage in that it retains the function of the inquest, which serves a vital purpose in our plan of governmental checks and balances. This function should not be lost.

There is some doubt that physicians need, or even should, make the "at the scene" investigation of all deaths. In view of the statistical records of the two systems, having a trained investigator go to the scene of death and then having a qualified physician make the necessary medical determinations at the time of the autopsy is the approach to be preferred. The statistics reveal that so doing leads to a far greater number of scientifically determined and correct causes of death.

The success of a medicolegal office in carrying out its work revolves not around the name but around the interest and fidelity to duty of the man who heads it. It is in the record of performance of the office that we should seek an answer to possible need for change. An approach that may be used in studying the record and determining this need is suggested. We must beware of conclusions based on generalities and off-hand opinions. We must recognize that such ill-founded conclusions may have gained general acceptance purely by virtue of repeated public utterance.

650 Merchant St. (11).

High Blood Pressure.—The provision of new and potent hypotensive drugs calls for establishing criteria for their use in patients. A therapeutic classification is . . . based on the natural history of essential hypertension. . . . Group I or mild benign hypertension does not require the newer agents. These should be employed in group II or intermediate benign hypertension with the appearance of progression in diastolic hypertension, vascular lesions, or symptoms. In the presence of premalignant or malignant hypertension, group III, therapy should be prompt and vigorous. If the medical agents, properly applied, are ineffective, lumbodorsal sympathectomy becomes the procedure of choice. . . . Potent weapons have been given the physician in his struggle against high blood pressure. Unfortunately, their application is restricted and, in fact, their very potency emphasizes their limitations, since they can be used only under careful medical supervision. However, there is reason to hope that these drugs herald the development of other agents which will be more practicable and more effective in hypertensive vascular disease.—J. M. Evans, M.D., The Management of Essential Hypertension, *Medical Annals of the District of Columbia*, September, 1953.

REPAIR OF RUPTURED PATELLAR TENDON WITH AIRPLANE CONTROL CABLE

Fremont A. Chandler, M.D., Chicago

The use of 18-8 stainless steel wire has proved to be unsatisfactory in the fixation of skeletal parts during the course of surgical procedures. This failure is due to the crystallizing quality of this alloy. Such wire may remain intact for months, unaffected by tissue fluids, and then break into multiple fragments because of movement of the bone fragments or pressure of the adjacent soft parts. The tendency to crystallization and fracture becomes greater as the size of the wire increases. In order to overcome this defect of single wire strands, stainless steel airplane control cables have been employed. The strength and flexibility of these cables make them adaptable to many surgical problems. The tensile strength of a 1/16 in. (0.16 cm.) 7 by 7 type cable is about 470 lb. (213.2 kg.). It is constructed of seven strands, each of which is composed of seven strands of very fine 18-8 stainless steel wire. Thus the 1/16 in. cable is composed of 49 strands of twisted wire permitting great flexibility and strength. When thoroughly cleansed, this cable is tolerated by bone and soft tissue. The passing of cable through small drill holes is facilitated by soldering the ends. These ends are cut off and discarded after fixation in the clamp.

Fig. 1.—Anteroposterior views of knees after fixation of right patella with airplane control cable (note saddle and clamp).

The following case report illustrates one of the many conditions in which flexible stainless steel cable has proved to be most useful.

REPORT OF A CASE

A woman 24 years of age had received closed fractures of the lower part of the middle third of both femurs. Excellent anatomic alignment and union had been secured elsewhere by fixation with metal plates. Long leg casts with the knee fully extended had been applied and left on for several weeks. At the time of the removal of these casts, it was found that flexion of the knees had been lost. Both knees were then flexed with the patient under general anesthesia. This manipulation resulted in rupture of both patellar tendons and loss of extension of both knees. An attempt had been made to repair the patellar tendon on the left side with fine wire sutures, but this proved unsuccessful, and the wire broke into numerous fragments. When seen by me this patient showed no disability other than the loss of active extension of both knees. Both patellas rode high on the intercondylar notches of the femurs. Passive flexion at the knees to 90 degrees, and extension to 180 degrees was present. Active extension to 150 degrees was demonstrated. The patellas were fairly mobile except for the limited descent over the condyles of the femurs due to contracture and scarring of the quadriceps muscle. The patellar tendons were much elongated and poorly defined. Surgical repair was indicated. The 1/16 in. cable described previously was used because of its flexibility and tensile strength. A ⅛ in. (0.32 cm.) drill hole was made in the long axis of the patella, its proximal end centering in the middle of the insertion of the rectus tendon. The ends of the cable were then passed distally through this drill hole, the loop straddling a small metal saddle that was inserted transversely at the upper margin of the patella to give a wide anchorage. The cable ends were passed through diverging drill holes in the upper anterior aspect of the tibia and fastened in a small cable clamp, after being drawn taut, with the knee extended. There was no difficulty in wound healing, and active and passive motion was instituted in three days. When the patient was seen one year after the operation full active extension of the right knee had been regained. The cable is intact and functioning, and the quadriceps muscle is active between 180 degrees extension and 90 degrees flexion. The patient has requested that a similar operation be performed on the left knee.

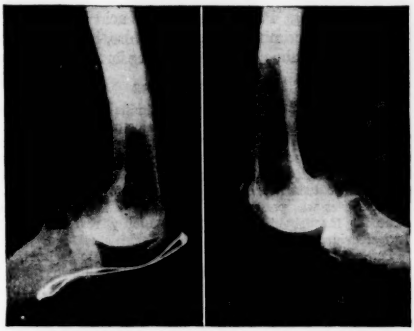

Fig. 2.—Lateral views of knees in flexion after surgery.

Because of its flexibility, great tensile strength, and its tolerance by tissue, stainless steel cable offers a solution to some of the problems of orthopedic surgery.

6 N. Michigan Blvd. (2).

CLINICAL NOTES

THROMBOCYTOPENIA INDUCED BY SODIUM PARA-AMINOSALICYLIC ACID

REPORT OF A CASE

Harold A. Wurzel, M.D.
and
Robert L. Mayock, M.D., Philadelphia

Thrombocytopenia has followed the administration of various drugs. Para-aminosalicylic acid has not heretofore been incriminated, and, therefore, it is of interest to record thrombocytopenia following its administration.

REPORT OF A CASE

An 18-year-old Negro girl was admitted to the medical service of the Hospital of the University of Pennsylvania on Feb. 5, 1952, with the symptoms and signs of tuberculous peritonitis of about six months' duration. There was no history of abnormal bleeding, and there was no family history of hemorrhagic tendency. At laparotomy performed on Feb. 8, 1952, ascites was present and tubercule-like lesions were seen scattered throughout the abdomen. Biopsy revealed pathological evidence of tuberculosis.

Pertinent laboratory findings included: hemoglobin level, 9.8 mg. per 100 cc.; leukocytes, 5,900 per cubic millimeter; differential count, normal; prothrombin time, 64% ± 20%; serum proteins, 7 gm. per 100 cc.; albumin, 2.7 gm. per 100 cc.; and globulin, 4.3 gm. per 100 cc. The Mantoux test was positive with 0.1 mg. of old tuberculin. Urinalysis, blood serology, blood urea nitrogen, fasting blood sugar, serum bilirubin, and a chest roentgenogram showed nothing abnormal.

Administration of streptomycin, 0.5 gm. every six hours intramuscularly, was started on the day of operation. After six days, the dose was reduced to 0.5 gm. every 12 hours. Two days later, administration of sodium *p*-aminosalicylic acid (PAS), 3 gm. orally every 6 hours, and procaine penicillin, 300,000 units intramuscularly every 12 hours, was begun. The immediate postoperative course was satisfactory, and the patient was afebrile by the seventh postoperative day.

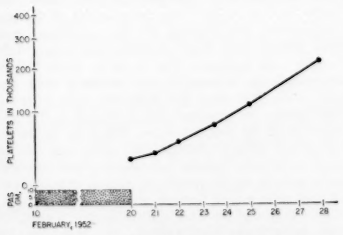

Fig. 1.—In patient with thrombocytopenia, platelet count rose after administration of streptomycin and sodium *p*-aminosalicylic acid (PAS) was discontinued.

On the tenth day after operation, the patient suddenly vomited large amounts of coffee-ground material along with blood clots. Studies of her clotting mechanism the next day gave the following values: bleeding time, 6 minutes, 30 seconds; prothrombin time, 45% ± 17%; AC globulin, 70%; prothrombin consumption, 16.6 seconds (poor utilization); Lee-White coagulation time, 19 minutes, 30 seconds; clot retraction, poor; and platelets, 30,000 and 38,000 per cubic millimeter (fig. 1). Marrow aspiration showed hypercellularity with marked increase in megakaryocytes, many of which were immature, and a normal and orderly maturation of the red and white blood cell precursors. At this time all medication was discontinued. Blood transfusions, a total of 1,500 cc., were given over the next few days with elevation of the hemoglobin level from 7.2 to 11.4 gm. per 100 cc. Gastrointestinal series showed no abnormality of the stomach or duodenum.

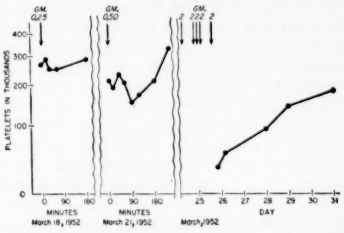

Fig. 2.—Single doses of 0.25 and 0.5 gm. of sodium *p*-aminosalicylic acid (PAS) did not cause permanent drop in number of platelets but five doses (2 gm. each) did. Platelet count rose when drug was discontinued.

By the 13th postoperative day, three days after discontinuance of all medication, the platelet count had risen to 76,000 per cubic millimeter. It was decided to resume the administration of streptomycin, and 0.5 gm. was given every 12 hours. No further bleeding occurred, and the platelet count continued to improve. On Feb. 27, the 17th postoperative day, the patient was discharged with instructions to receive streptomycin, 1 gm. intramuscularly twice weekly, and to continue bed rest at home.

Since the readministration of streptomycin failed to reproduce the thrombocytopenia, sodium *p*-aminosalicylic acid was considered the probable causative agent, and it was decided to re-call the patient for test doses of this drug. On March 18, 0.25 gm. of sodium *p*-aminosalicylic acid caused no permanent decrease in the number of platelets during a three hour period of observation. On March 21, 0.5 gm. was similarly found to have no significant effect. Reassured by these observations, it was decided to resume therapy with *p*-aminosalicylic acid. Accordingly, on March 24, a dosage of 2 gm. three times a day was instituted. On March 26, after the patient had been given a total of 10 gm. of sodium *p*-aminosalicylic acid, the platelet count had fallen to 38,000 per cubic millimeter (fig. 2). Marrow examination again revealed large numbers of megakaryocytes, many of which were immature. No abnormalities of granulopoiesis or erythropoiesis were noted. Therapy with *p*-aminosalicylic acid was again discontinued and the patient readmitted to the hospital. Five days later, the platelet count had risen to 192,000 per cubic millimeter. Menstruation, which had begun March 24, was more profuse than usual.

Since it was felt that sodium *p*-aminosalicylic acid constituted a valuable agent in the treatment of this patient, the test dose procedure was repeated during the second hospital stay. No platelet fall was noted after single doses of 1 gm. on April 1 or after 2 gm. given the following day. On April 3, a single dose of 4 gm. produced a fall in platelets from 318,000 to 60,000 per cubic millimeter (fig. 3) within 90 minutes. Administration of the drug was then permanently discontinued. The platelet count rose slowly and reached 280,000 per cubic millimeter on April 9, the day of discharge. Streptomycin, 1 gm. twice weekly intramuscularly, was continued. The patient has continued to improve, showing weight gain and absence of pain, fever, and ascites. Six platelet counts performed during the next four months were normal, and no further hematological difficulties have appeared.

This study was aided by the Elizabeth and Mario Peruzzi Fund for Pulmonary Research and the Eli Lilly Hematology Fund.

From the Hematology Section and Chest Clinic of the Department of Medicine of the Hospital of the University of Pennsylvania.

COMMENT

The causative relationship of sodium *p*-aminosalicylic acid administration to the thrombocytopenia in this patient seems well established. Although streptomycin reportedly may cause thrombocytopenia,[1] there was no evidence in this case that it did. Thrombocytopenia occurred only when sodium *p*-aminosalicylic acid was given.

In drug-induced hypersensitivity reactions, the fall in platelet count usually occurs after very small amounts of the offending agent are given. In this patient, a therapeutic dose was required to give the effect. Despite this, we believe the reaction indicated hypersensitivity rather than a toxic depression of the bone marrow. Marrow aspirations showed increased numbers of megakaryocytes of an immature type, with no evidence of marrow destruction. This marrow picture, like that in idiopathic thrombocytopenic purpura, is suggestive of a maturation arrest mechanism affecting the megakaryocytes. The sudden fall in the number of platelets occurring within 90 minutes after an effective test dose of the drug (fig. 3) is believed to imply an additional peripheral mechanism as well. The peripheral mechanism, occurring with shock-like speed, is probably one of agglutination and destruction of platelets.

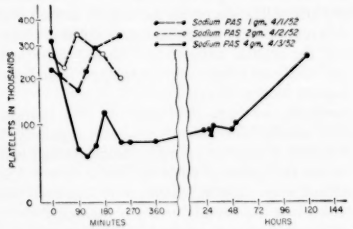

Fig. 3.—Single doses of 1 and 2 gm. of sodium *p*-aminosalicylic acid (PAS) did not cause permanent or major decrease in number of platelets, but a dose of 4 gm. caused platelet count to drop from 318,000 to 60,000 per cubic millimeter.

Nonthrombocytopenic purpura following *p*-aminosalicylic acid administration has been reported previously,[2] but this was probably anaphylactoid in nature since platelets and coagulation factors were normal in these patients. Bigelow and Desforges [3] have reported two cases of thrombocytopenic purpura associated with quinidine ingestion. In one of these cases, they were able to demonstrate a factor in the patient's platelet-poor plasma that caused agglutination of normal platelets in the presence of quinidine. They also report similar work done by Ackroyd using Sedormid ([2-isopropyl-4-pentenoyl] urea). It seems probable that a similar mechanism was operative in our patient.

Since hemoptysis is a common manifestation of pulmonary tuberculosis, it behooves the attending physician to determine whether hemoptysis or other hemorrhagic phenomena occurring in patients receiving *p*-aminosalicylic acid are the result of thrombocytopenia secondary to the drug therapy. Since streptomycin has also been found to cause thrombocytopenia,[1] differentiation may be difficult when these drugs are used in combination.

SUMMARY

Thrombocytopenia with hematemesis was observed in a patient after administration of sodium *p*-aminosalicylic acid (PAS). The causative relationship of the sodium *p*-aminosalicylic acid to the thrombocytopenia was established during two test periods. The reaction was apparently of the hypersensitive type, and it is suggested that the mechanism involved agglutination and destruction of the platelets together with maturation arrest of the megakaryocytes.

ADDENDUM

Since this paper was written, Hayes and Wise [4] have reported on a patient in whom thrombocytopenia followed the administration of *p*-aminosalicylic acid.

3400 Spruce St. (4) (Dr. Wurzel).

1. Wintrobe, M. M.: Clinical Hematology, ed. 3, Philadelphia, Lea and Febiger, 1951.
2. Luxardo, I. L.: Porpora emorragica ed acido paramino-salicilico, Ann. ital. dermat. sif. **5**: 189-201 (July-Aug.) 1950.
3. Bigelow, F. S., and Desforges, J. F.: Platelet Agglutination by an Abnormal Plasma Factor in Thrombocytopenic Purpura Associated with Quinidine Ingestion, Am. J. M. Sc. **224**: 274-280 (Sept.) 1952.
4. Hayes, R. H., and Wise, M.: Hypersensitivity Reaction to Oral Para-Aminosalicylic Acid, Dis. Chest **23**: 645-656 (June) 1953.

LIGATION OF HEPATIC ARTERY FOR PORTAL HYPERTENSION

CLINICAL APPLICATION OF EXPERIMENTAL OBSERVATIONS

H. Popper, M.D.
N. C. Jefferson, M.D.
and
H. Necheles, M.D., Chicago

Good clinical results are the decisive factor in the acceptance of a novel procedure by the medical profession. However promising results of experiments may be, it is only the clinical application that proves their practical value. Inappropriate application or undeserved criticism can discredit new ideas easily. There is a tendency to overestimate the possibilities of new procedures, to apply them too widely, and then, on the basis of unsatisfactory results, to declare them as failures and to warn against their use.

The above ideas apply to ligation of the hepatic artery for portal hypertension, a procedure for which definite indications and contraindications have not yet been established. In the following report, we want to point out experimental observations that may be of clinical value and that may explain some of the clinical failures.

The liver obtains oxygen from both arterial and venous blood, and it has been claimed [1] that more than 50% of the oxygen used by the liver is supplied by portal blood. We have demonstrated, however, that in the dog arterial blood is the main source of oxygen for the liver.[2]

From the Department of Gastro-Intestinal Research, Medical Research Institute of Michael Reese Hospital.
This work was supported by Public Health Grant A 373. The Department is in part supported by the Michael Reese Research Foundation.

1. Schwiegk, H.: Untersuchungen ueber die Leberdurchblutung und den Pfortaderkreislauf, Arch. exper. Path. u. Pharmakol. **168**: 693, 1932. Blalock, A., and Mason, M. F.: Observations on Bloodflow and Gaseous Metabolism of Liver of Unanesthetized Dogs, Am. J. Physiol. **117**: 328, 1936.

Arterial blood enters the liver through its hilum in branches of the hepatic artery and its collaterals and through the coronary ligaments in the hepatic branches of the phrenic arteries. This latter source of arterial blood, which was neglected in many previous investigations, shows marked anatomic variations. We have shown [3] that survival of the liver after complete excision of the hepatic artery depends on the presence of arterial blood supply through the phrenic arteries, in addition to portal blood. Fatal liver necrosis develops regularly when ligation of the hepatic branches of the phrenic arteries is added to excision of the hepatic artery.

This shows that the liver cannot survive on portal blood alone and that it needs some arterial blood. However, it is hazardous to rely on the hepatic branches of the phrenic arteries, which vary much in number and size in dogs as well as in man, for this arterial blood supply. Attempts by the surgeon to decrease the arterial blood supply of the liver should, therefore, stop short of complete occlusion of all arterial channels that enter through the porta hepatis. After ligature of the splenic, the common hepatic, and the left gastric arteries, arterial blood can enter the liver by reverse flow through the gastroduodenal branch of the superior mesenteric artery, if the arterial distribution conforms to anatomic normality. If subtotal gastrectomy is added to such a procedure, the hepatic arterial blood supply may be interrupted completely if the pancreaticoduodenal branches are interfered with in the process of mobilizing the duodenum. Even if the anastomosis of the hepatic artery with the superior mesenteric artery is not jeopardized, there is danger. In 5 out of 11 dogs in which the common hepatic artery was ligated and transected, we found that collateral arterial circulation to the liver did develop by reversed flow through the gastroduodenal or right gastric arteries. During these operations, active arterial bleeding from the peripheral stump of the hepatic artery suggested that retrograde arterial blood flow was present and would persist. The occurrence, however, of thrombosis, vasospasm, and anatomic variations apparently makes the establishment of such circulation uncertain and hazardous. If, in addition to the splenic and the left gastric arteries, the hepatic artery is ligated distal to the gastroduodenal artery, namely between the origin of the gastroduodenal artery and the hilum of the liver, the hepatic arterial blood supply through the hilum is interrupted completely, with the possible exception of overlooked collaterals. Of course, in all these situations the hepatic branches of the phrenic arteries still function, but their efficiency seems rather unpredictable. These facts may explain some of the unfavorable results of ligation of the hepatic arterial blood supply.

Experimentally, others [4] and we ourselves [2b] have been able to demonstrate that the liver survives practically complete occlusion of its arterial and venous blood supply, if this is performed in several stages. These observations should be of clinical value. It is apparently not advisable to attempt complete interruption of the hepatic arterial circulation in one stage. Ligation of the hepatic, the splenic, and the left gastric arteries should preferably be performed in several stages. This permits a study of the reaction of the liver to a limited diminution of its arterial blood supply, and it indicates its probable reaction to complete elimination of arterial circulation before it is too late. The liver also has time to become adjusted to a lower supply of oxygen, and it will survive even if no reverse flow occurs and even if the supply through the hepatic branches of the phrenic arteries happens to be completely insufficient.

Ligation of the hepatic artery lowers portal hypertension of Laennec's cirrhosis,[4] supposedly because intrahepatic arterioportal anastomoses increase portal pressure and interfere with portal blood flow.[5] This rationale of hepatic artery ligation points already to certain limitations. Wherever portal hypertension is not due to interference of the arterial circulation with the portal circulation, no beneficial effect can be expected from ligation of the hepatic artery.

Furthermore, we have demonstrated that ligation of the hepatic arterial blood supply is almost regularly fatal in the presence of impaired portal circulation that is produced by marked constriction of the portal vein.[2b] A similar condition must exist in patients with impaired portal circulation when the hepatic artery is ligated; therefore, only if it is certain that the portal circulation will be improved by ligation of the hepatic arterial blood supply, should such procedure be performed. If the portal circulation is not improved by ligation of the artery, we will deprive a liver with already impaired portal circulation, which is more dependent on its arterial blood than a normal liver, of part of its essential blood supply. It seems, therefore, urgent that systematic investigations be done to establish the type of portal obstruction, in addition to Laennec's cirrhosis, in which a beneficial effect on portal pressure and portal circulation is to be expected after ligation of the hepatic artery.

SUMMARY AND CONCLUSIONS

Under normal conditions, the liver obtains oxygen through the hepatic artery, the hepatic branches of the phrenic arteries, and the portal vein. Animal experiments show that, in addition to the portal blood, a definite minimal amount of arterial blood is necessary for survival of the liver. After ligation of the common hepatic, the splenic, and the left gastric arteries, the liver receives arterial blood through only the hepatic branches of the phrenic arteries and, by reverse flow, the gastroduodenal artery. The development of reversed circulation through the gastroduodenal artery is uncertain and unpredictable.

Combining the above procedure with gastrectomy jeopardizes the development of reversed flow in the gastroduodenal artery, and hepatic branches of the phrenic arteries are possibly the only source of arterial blood

2. (*a*) Popper, H. L.; Jefferson, N. C., and Necheles, H.: Interruption of All Arterial Blood Supply to Liver Not Compatible with Life; Experimental Study, Am. J. Surg. **84**: 429, 1952; (*b*) Survival of Dogs After Partial or Total Devascularization of Liver, Ann. Surg., to be published.

3. Jefferson, N. C.; Proffitt, M. M., and Necheles, H.: Collateral Arterial Circulation to Liver of Dog, Surg. **31**: 5, 724, 1952. Footnote 2.

4. Rappaport, A. M.: Experimental Ischemia of Liver and Hepatic Coma, in Transactions of 10th Liver Injury Conference, New York, J. Macy, Jr. Foundation, 1951, p. 146. Rappaport, A. M.; Borowy, F. J., and Lotto, W. N.: Experimental Hepatic Coma, Surgical Forum; Proceedings of Forum Session, Clinical Congress of American College of Surgeons, New York, September, 1952, Philadelphia, W. B. Saunders Company, 1953, p. 504.

5. Herrick, F. C.: Experimental Study into Cause of Increased Portal Pressure in Portal Cirrhosis, J. Exper. Med., **9**: 93, 1907. McIndoe, A. H.: Vascular Lesions of Portal Cirrhosis, Arch. Path., **5**: 23 (Jan.) 1928. Dock, W.: Role of Increased Hepatic Arterial Flow in Portal Hypertension of Cirrhosis, Tr. A. Am. Physicians **57**: 302, 1942.

supply. Ligation of the splenic, the left gastric, and the hepatic arteries, the latter distal to the origin of the gastroduodenal artery, limits the supply of arterial blood to the liver to the phrenic arteries. Unfavorable results following these procedures may be due to inadequate development of the hepatic branches of the phrenic arteries and to variations in vascular anatomy and function of the hepatic artery and its branches.

Animal experiments show that the liver can be deprived almost completely of its blood supply if this is done in stages. This is not due to revascularization of the liver by collateral circulation but to the fact that the liver can adjust gradually to a drastically lowered blood suppy. Ligation of the hepatic arterial blood supply and its collaterals should possibly be done in stages. Systematic investigations should be undertaken to establish the types of intrahepatic portal obstruction, in addition to Laennec's cirrhosis, in which ligation of the hepatic artery will cause lowering of portal hypertension.

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BLEEDING ESOPHAGEAL VARICES WITHOUT OTHER SIGNS OF HYPERTENSION IN A CHILD

James Mithoefer, M.D., Cooperstown, N. Y.

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There are instances in which a careful investigation fails to reveal the source of massive gastrointestinal hemorrhage. When there are secondary evidences of portal hypertension, one concludes that bleeding varices of the esophagus are the cause. The case presented here illustrates that varices of the esophageal veins may be present and may be the source of fatal hemorrhage in childhood without other signs of portal hypertension.

REPORT OF A CASE

This child was 2½ years old at the time of her first admission to the Children's Hospital, Cincinnati, on April 6, 1950, because of massive gastrointestinal hemorrhage. She had been born at term after an uncomplicated pregnancy, and her growth and development had been normal until diarrhea developed 10 months before this admission. After the child had had several watery stools a day for two weeks, her parents noticed that her stools became black and foul smelling and that she seemed pale and listless and sweated unduly. She was admitted to a hospital in another city where she received two blood transfusions and was discharged after a stay of three days. She apparently regained her normal health until three weeks later when tarry stools were again noticed as were pallor, weakness, and sweating. She was readmitted to the other hospital, more blood transfusions were given, and laparotomy was performed. The surgeon was unable to locate a source of bleeding. Shortly after her recovery from the operation, she was taken to a midwestern clinic where an extensive investigation failed to reveal a source of gastrointestinal bleeding. It is significant that there was no sign of bleeding during her stay at the clinic, that the liver was palpable 2 fingerbreadths below the right costal margin, and that the spleen was not palpable. It is also of interest that the roentgenologic examination of the gastrointestinal tract was reported as normal, but no specific mention was made of the esophagus.

From the Mary Imogene Bassett Hospital, Cooperstown, N. Y., and the Department of Surgery, College of Physicians and Surgeons, Columbia University, New York.

The child was then entirely well until March, 1950, when chickenpox developed. Two days after the appearance of the exanthem, she began to pass black stools that became red and contained blood clots. She was admitted to another hospital where three transfusions were given, but further diagnostic studies were not carried out. On April 6, 1950, she complained that her stomach hurt and began to pass grossly bloody stools. After passing eight or nine such stools, she was brought to the Children's Hospital. While en route she vomited red blood. This was the first time hematemesis occurred.

Her family history and her history were irrelevant and noncontributory. Examination showed her to be an alert, cooperative child who did not appear chronically ill. Her weight was 26 lb. 4 oz. (10.5 kg.) and her height 33½ in. (85.09 cm.). Her pulse rate was 180 per minute, respiratory rate 28 per minute, and blood pressure 115/45 mm. Hg. There was no icterus. The skin showed no telangiectases, petechiae, or purpuric areas. Her head, including the mouth and pharynx, and her heart, lungs, and extremities were not significantly abnormal. The abdomen was soft, slightly convex, but not distended. There was a healed right rectus surgical scar. The smooth, nontender liver edge was at the level of the costal margins. The spleen was not palpable. Rectal examination revealed no abnormality within or outside the lumen.

Examination of the blood showed it contained 5 gm. of hemoglobin per 100 cc. and 1,710,000 erythrocytes per cubic millimeter, with 1.9% reticulocytes. There were 10,300 white blood cells per cubic millimeter, with a normal differential count and 340,000 platelets per cubic millimeter. Except for the presence of acetone, urinalysis was normal. The serum contained 32 mg. of nonprotein nitrogen per 100 cc.; its pH was 7.47; and it contained 23.8 mM. of carbon dioxide per liter; 108 mEq. of chloride per liter, 3.5 gm. of albumin per 100 cc., and 1.5 gm. of globulin per 100 cc. The prothrombin time was 23.4 seconds. The capillary bleeding time was 4 minutes and the clotting time 10 minutes as determined by the Lee-White two tube method. The tourniquet test showed four petechiae per square inch after five minutes.

Roentgenologic examination of the gastrointestinal tract after a barium meal showed that the wall of the esophagus was smooth, without evidence of varices. The stomach contained multiple filling defects that were thought to be blood clots, but one in the region of the duodenum had the appearance of a polyp on a long pedicle. There was no spasm or other evidence of ulcer in the stomach or duodenum. The passage of barium through the small bowel and colon was normal.

The investigation described above was carried out in the first 48 hours of the patient's hospital stay. During that time, vigorous rectal bleeding continued so that, after receiving a total of 1,050 cc. of blood intravenously, the child's hemoglobin level was still only 12 gm. per 100 cc. On the assumption that the filling defect in the region of the duodenum might be a polyp, it was decided to perform laparotomy; therefore, another 700 cc. of blood was given. At 2 a. m. on April 9, 1950, laparotomy was performed through a long right rectus incision. The entire gastrointestinal tract from the cardia of the stomach to the rectum was inspected and palpated, but no evidence of bleeding was found. The stomach was opened at the pylorus, and its interior and the interior of the first portion of the duodenum were palpated and inspected. The lower 7 cm. of the esophagus and of the remainder of the duodenum to the ligament of Treitz were normal to palpation. The liver and spleen were of normal size and consistency. No dilated veins of the portal system were seen; there was no excessive vascularity of the gastrosplenic or lienocolic ligaments. The extrahepatic biliary tract appeared and felt normal. The splenic vessels and the portal vein were not exposed, but the upper border of the pancreas and the hilum of the liver felt normal.

There were no more episodes of bleeding after operation, and the girl was sent home on April 26, 1950. She remained well and active until June 9, 1950, when measles developed and a large tarry stool was passed. She was taken to the contagious division of the Cincinnati General Hospital where, shortly after admission, she had a massive hematemesis and died.

At autopsy, the esophagus was opened in situ. Its wall was of average thickness, and it was lined by longitudinally folded, whitish, glistening mucosa. The mucosa of the distal two-thirds of the esophagus contained three prominent, dilated, longitudinal tortuous veins. Along the course of one of these veins about 2 cm. from the cardia, there was a red plug of clotted blood in a perforation of the vein. Immediately above the cardia there were several puckered white scars overlying dilated veins. The liver weighed 390 gm. and the spleen 60 gm. The liver was of normal consistency and friability. The capsule of the spleen was slightly thickened and mottled with dark brown confluent foci of discoloration; its cut surface showed a pinkish, meaty parenchyma with accentuated trabecular markings. Less than the usual amount of pulp was obtained on scraping the surface. The parenchyma was mottled with confluent ovoid, dark brown, hemorrhagic foci. The splenic vein, as well as the portal vein and its other tributaries, was patent. Histological examination of the liver showed no abnormality. The spleen showed evidence of mild splenitis and recent passive congestion consistent with the presence of measles. The remainder of the examination revealed no significant abnormality.

COMMENT

Bleeding from esophageal varices is uncommon in children. In the records of the Columbia-Presbyterian Medical Center in New York between 1932 and 1952, there are 501 cases of which 36 were in children under the age of 14. The reports on the subject deal principally with patients who had other obvious manifestations of portal hypertension.[1] Review of 29 of the 36 cases from the Columbia-Presbyterian Medical Center shows that in each instance other evidences of portal hypertension were present. Whipple,[2] Rousselot,[3] Thompson,[4] and others have described the mechanism of formation of varices of the esophageal veins in cases in which obstruction near the termination of the portal system produces increased portal pressure.

There are a few reports of esophageal bleeding without portal hypertension in the literature. Friedman [5] has reported the case of a 3½-year-old boy who died after several massive gastrointestinal hemorrhages. Autopsy showed large varices in the esophagus and a grossly normal liver and spleen, although the latter had previously been enlarged on physical examination. The viscera were not examined microscopically. Nochimowski [6] reported two instances of death from bleeding esophageal varices in adults. In each case, the liver was reported to be quite healthy, and no cause of the varices could be found. Both of these authors expressed the opinion that varices of the esophageal veins are caused by a congenital defect. In support of this opinion, Nochimowski points out that varices do not develop in all persons with Laennec's cirrhosis and portal hypertension. He postulates that an underlying deficiency in the vein must be present before it will give way to increased intraluminal pressure. Further supporting evidence has been offered by Weinberg [7] who reviewed 1,189 consecutive autopsies in which 95 instances of esophageal varices were demonstrated; in only 23% was there associated liver disease. Furthermore, of 30 cases of Laennec's cirrhosis, varices were demonstrable in only 43%. Severe disease of the cardiorespiratory system was present in an additional 56 cases. In view of these data, Weinberg concluded that congenitally weak spots may exist in the esophageal veins and that, under the influence of portal hypertension, hypoxia, or other adverse conditions, such areas may dilate.

Those who have dealt surgically with portal hypertension recognize that secondary evidence of increased vascularity of the portal system may not be grossly apparent and that the only reliable test for its presence is direct measurement of pressure in the portal system. This measurement was not made in the case under discussion; therefore, it can not be said that the portal pressure was normal. The most that can be said is that no cause for portal hypertension was found and that esophageal varices constituted the only indirect sign of portal hypertension after death.

The correct diagnosis in the case described was not made because signs of portal hypertension were not present at operation, and because varices were not demonstrated by roentgenologic examination. Measurement of the portal pressure at the time of laparotomy might have been of help, although it must be realized that, in the presence of diminished effective blood volume, an elevated portal pressure may fall to normal or below. More attention should have been paid to the esophagus during roentgenologic examination, perhaps with the roentgenogram being made while the patient performed the Valsalva maneuver. Had there been any indication of the presence of varices, esophagoscopy should have been performed. Had the diagnosis been established, proper therapy could have been instituted. If the portal pressure had been found to be elevated, splenectomy and splenorenal shunt would have been performed. If no portal hypertension had existed, it would have been logical to resect the lower portion of the esophagus and perform esophagogastrostomy.

SUMMARY AND CONCLUSIONS

A case of fatal hemorrhage from varices of the esophageal veins without evidence of portal hypertension in a child is presented. The importance of considering varices of the esophagus as a cause of unexplained gastrointestinal bleeding is emphasized, since special diagnostic aids may be necessary to establish a diagnosis.

1. Smith, R. M., and Howard, P. J.: The Early Occurrence of Gastric Hemorrhage in Children with Splenomegaly, Am. J. Dis. Child. **34**: 585, 1927. Smith, R. M., and Farber, S.: Splenomegaly in Children with Early Hematemesis, J. Pediat. **7**: 585, 1935. Diamond, L. K.: Indications for Splenectomy in Childhood: Results in 52 Operated Cases, Am. J. Surg. **39**: 400, 1938. Greenwald, H. M., and Wasch, M. G.: The Roentgenologic Demonstration of Esophageal Varices as a Diagnostic Aid in Chronic Thrombosis of the Splenic Vein, J. Pediat. **14**: 57, 1939. Hansson, C. J.: Varices of the Oesophagus in Children, Acta radiol. **25**: 507, 1944. Shumacker, H. B., Jr., and King, H.: Splenic Studies II. Portal Hypertension in Children Associated with Gastroesophageal Hemorrhage, A. M. A. Arch. Surg. **65**: 499 (Oct.) 1952.

2. Whipple, A. O.: The Problem of Portal Hypertension in Relation to the Hepatosplenopathies, Ann. Surg. **122**: 449, 1945. Whipple, A. O.: The Rationale of Portacaval Anastomosis, Bull. New York Acad. Med. **22**: 251, 1946.

3. Rousselot, L. M.: The Late Phase of Congestive Splenomegaly (Banti's Syndrome) With Hematemesis but Without Cirrhosis of the Liver: Further Observations on Etiology of Banti's Syndrome and Effect on Prognosis of Certain Variations in Portal Venous Pattern, Surgery **8**: 34, 1940.

4. Thompson, W. P.; Caughey, J. L.; Whipple, A. O., and Rousselot, L. H.: Splenic Vein Pressure in Congestive Splenomegaly (Banti's Syndrome), J. Clin. Invest. **14**: 571, 1937.

5. Friedman, E.: Esophageal Varix: Report of a Case in a 3½-Year-Old Child, Not Dependent on Liver Cirrhosis, J. Pediat. **4**: 641, 1934.

6. Nochimowski, J.: Über tödliche Blutungen aus Oesophagusvarizen in Fällen ohne Lebercirrhose, Frankfurt. Ztschr. Path. **43**: 463, 1932.

7. Weinberg, T.: Observations on the Occurrence of Varices of the Esophagus in Routine Autopsy Material, Am. J. Clin. Path. **19**: 554, 1949.

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COUNCIL ON FOODS AND NUTRITION

ACCEPTED FOODS

The following products have been accepted as conforming to the rules of the Council.

JAMES R. WILSON, M.D., *Secretary.*

Beech-Nut Packing Company, Canajoharie, New York.

Beech-Nut Junior Sweet Potatoes.

Ingredients: Sweet potatoes, salt, and water sufficient for preparation.

Analysis (submitted by manufacturer).—Total solids 20.56%, moisture 79.44%, ash 0.99%, fat (ether extract) 0.41%, protein (N × 6.25) 0.87%, crude fiber 0.64%, carbohydrate other than crude fiber (by difference) 17.65%.

Vitamins and Minerals	Per 100 Gm.
Thiamine	26 mcg.
Riboflavin	20 mcg.
Niacin	0.42 mg.
Ascorbic Acid	14.4 mg.
Crude Carotene	4.4 mg.
Vitamin A Equivalent	7333 I. U.
Calcium	21 mg.
Phosphorus	35 mg.
Iron (total)	0.50 mg.
Iron (available)	0.48 mg.
Copper	0.17 mg.

Calories.—0.82 per gram; 23.2 per ounce.

Use.—For use in the feeding of older infants and young children.

Swift and Company, Chicago.

Swift's Strained Egg Yolks for Babies.

Ingredients: Raw egg yolks, water, and salt.

Analysis (submitted by manufacturer).—Total solids 30.8%, moisture 69.2%, ash 1.4%, fat 18.7%, protein 10.4%, carbohydrate 0.3%, and salt 0.65%.

Vitamins and Minerals	Per 100 Gm.
Vitamin A	1,260 I. U.
Vitamin D	210 I. U.
Thiamine	0.06 mg.
Riboflavin	0.2 mg.
Niacin	0.1 mg.
Calcium	70 mg.
Phosphorus	270 mg.
Iron	2.6 mg.

Calories.—2.11 per gram; 59.8 per ounce.

Use.—For use in the feeding of infants and young children and in special diets.

Comstock Canning Corporation, Newark, N. Y.

Comstock Brand Dietetic Pack Diced Carrots.

This product consists of Red Cored Chantenay carrots packed in water without any added salt.

Analysis (submitted by manufacturer).—Total solids 7.03%, moisture 92.97%, fat extract 0.14%, protein 0.4%, crude fiber 0.6%, available carbohydrate 5.30%, sodium 14.4 mg./100 gm.

Calories.—0.27 per gram; 7.7 per ounce.

Use.—For use in low-sodium and other therapeutic diets.

Comstock Brand Dietetic Pack Cut Green Beans.

This product consists of Tendergreen variety beans packed in water without any added salt.

Analysis (submitted by manufacturer).—Total solids 4.43%, moisture 95.57%, fat extract 0.06%, protein 1.1%, crude fiber 0.7%, available carbohydrate 2.25%, sodium 0.3 mg./100 gm.

Calories.—0.17 per gram; 4.8 per ounce.

Use.—For use in low-sodium and other therapeutic diets.

Comstock Brand Dietetic Pack Whole Kernel Golden Sweet Corn.

This product consists of Tendermost variety sweet corn packed in water without any added salt.

Analysis (submitted by manufacturer).—Total solids 16.53%, moisture 83.47%, fat extract 0.28%, protein 2.5%, crude fiber 0.8%, available carbohydrate 12.6%, sodium 3.6 mg./100 gm.

Calories.—0.53 per gram; 15.0 per ounce.

Use.—For use in low-sodium and other therapeutic diets.

Gerber Products Company, Fremont, Mich.

Gerber's Junior Prunes.

Ingredients: Prunes with enough water added to prepare properly.

Analysis (submitted by manufacturer).—Total solids 25.94%; moisture 74.06%, ash 0.91%, fat (ether extract) 0.22%, protein (N × 6.25) 0.80%, crude fiber 0.89%, carbohydrates other than crude fiber (by difference) 23.12%.

Vitamins and Minerals	Per 100 Gm.
Vitamin A (carotene)	692.0 U. S. P. units
Thiamine	0.017 mg.
Riboflavin	0.129 mg.
Ascorbic Acid	4.935 mg.
Niacin	0.503 mg.
Calcium	27.3 mg.
Phosphorus	24.9 mg.
Iron	1.26 mg.

Calories.—0.97 per gram; 27.61 per ounce.

Use.—For use in the feeding of older infants and young children.

S. S. Pierce Company, Boston.

Overland Brand Dietetic Pack Peas and Carrots.

This product consists of the vegetables packed in water without any added salt.

Analysis (submitted by distributor).—Total solids 8.3%, moisture 91.7%, fat extract 0.16%, protein (N × 6.25) 1.95%, crude fiber 0.99%, available carbohydrates 3.88%, sodium 14.90 mg./100 gm.

Calories.—0.25 per gram; 7.1 per ounce.

Use.—For use in low-sodium and other therapeutic diets.

H. J. Heinz Company, Pittsburgh.

Heinz Strained Cream of Tuna.

Ingredients: Tuna fish (fillet), carrots, wheat flour, corn starch, cream, whole milk powder, onions, salt, and water.

Analysis (submitted by manufacturer).—Total solids 16.50%, moisture 83.50%, ash 0.81%, fat (acid hydrolysis) 2.44%, protein (N × 6.25) 3.69%, crude fiber 0.39%, total sugar as sucrose 1.07%, natural reducing sugar 0.79%, acidity (as acetic) 0.09%, starch 8.06%, and salt 0.48%.

Vitamins and Minerals	Per 100 Gm.
Vitamin A activity	490 I. U.
Thiamine	9.3 mcg.
Riboflavin	33.0 mcg.
Niacin	1.23 mg.
Calcium	40.0 mg.
Phosphorus	54.0 mg.
Iron	0.10 mg.
Copper	0.14 mg.

Calories.—0.73 per gram; 20.7 per ounce.

Use.—For use as a transition food for infants from milk to semiliquid foods.

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CORONER VERSUS MEDICAL EXAMINER

Elsewhere in this issue, Dr. Turkel, coroner of the city and county of San Francisco, has drawn certain interesting conclusions from a comparison of the statistical reports of the coroner's offices of several counties of California with those of the medical examiner's offices of several cities and states elsewhere in the United States. For several reasons he concludes that the work done in the coroner's office studied "surpasses in quality and amount that done in any other type of system on which statistics were available." One reason for this conclusion is that a higher percentage of autopsies was performed by the coroners than by the medical examiners. Another is that more specimens were referred for special laboratory examinations by the coroners than by the medical examiners. Still another is that as a result of such tests the coroners of San Francisco and Los Angeles discovered a higher incidence of death from barbiturate poisoning than did the medical examiners of New York City or the state of Maryland. It is gratifying to hear that, despite the handicap of laws that fail to require the coroner to be a physician and that do require that he must run for office on a party ticket if he wishes to be reelected, the offices in Los Angeles and San Francisco function as well as they apparently do according to the statistics compiled by Dr. Turkel.

It should be obvious that the name under which the medical investigation operates, whether it be coroner or medical examiner, has nothing to do with the effectiveness with which his official duties are discharged. In 1942 the committee of the American Medical Association to study the relationship of medicine and law reported that the foremost requirement for the continued existence of a competent coroner's or medical examiner's office is a law that requires first that the office holder be professionally competent and second that he have both the authority and the facilities for the conduct of such investigations as are required in the interests of public welfare. Although the selection of coroners under some form of the merit system would appear to give greater assurance of professional competence than their election by popular vote, it should not be assumed that either all appointed medical examiners are good or all elected coroners are bad.

In extolling the advantages of the coroner's office, Dr. Turkel points to the fact that the medical examiner does not have the authority to hold an inquest. Certainly inquests need to be, and are, held in certain categories of violent or unexplained deaths under both the coroner and the medical examiner systems. The coroner ordinarily initiates and presides over the inquest. Under the medical examiner system the medical examiner ordinarily requests a legally competent magistrate to hold an inquest and appears before the magistrate with whatever evidence he may have. If the coroner were a lawyer his competence to serve as a magistrate might be assumed. If he is a physician, as he should be, he probably serves the needs of justice better as witness than as a presiding magistrate.

Dr. Turkel's study is to be commended in that it indicates that much can be done to improve the operation of the office of county coroner short of replacing it by a state medical examiner system. The important thing is to move in the direction of improvement. Although Dr. Turkel has not submitted convincing evidence that it is better to keep the office in county politics than to put it under the merit system, he has shown that it is possible to do good work under great handicaps.

MEDICAL COLOR TELEVISION—STORY OF PROGRESS

The Seventh Clinical Meeting of the American Medical Association, in St. Louis, will witness a milestone in the history of medical color television when the color television unit of Smith, Kline & French Laboratories presents its 50th program of colorcasting for the medical profession. Those familiar with the history of medical color television will remember that it was at the 1949 meeting of the A.M.A. in Atlantic City where this firm's TV unit presented the first program of operations and clinics to be televised in color. Since then it has carried its services to 15 states, Canada, and France. Many "firsts" were recorded along the way. In 1951, the Canadian Medical Association was host at the first program of color television seen in Canada. From here, the unit went abroad to give Europe its first look at color TV in a program presented at the International Society of Surgeons meeting in Paris. In the first transcontinental color transmission, a coarctation was televised at the Los Angeles County Hospital and received in Chicago and New York.

Innovations in production and equipment have been introduced at almost every meeting, though many of these refinements are not obvious to the program viewers. The annual meeting of the A.M.A. in New York last summer saw the unveiling of what might be considered—from the viewpoint of the audience—the most striking additions to SKF equipment in years. The telecasts there were received on two 4½ by 6 foot screens, specially built by the Columbia Broadcasting System. These huge screens provide a picture 27 times larger than that seen on the 12-inch receivers used previously, rendering an image of great clarity. When the camera is focused on a surgical field, the view obtained by physicians in the

audience is often better than that available to some members of the operating team. The dramatic character that the screens lend to surgical procedures was pointed up at a recent medical meeting when a mitral commissurotomy was being televised. The exposed heart filled almost the entire screen, and it was noticed that some persons in the audience were unconsciously moving their heads in time with the heartbeats. Another important addition to the equipment was the acquisition of a studio camera in 1951. Originally, the telecasting was done with but one surgical camera, employed for clinical presentations as well as operations. The physician conducting a clinical discussion was forced to adapt his presentation to the narrow confines of a camera designed primarily for use in an operating room. With the addition of the versatile studio camera, the variety of material used in clinical presentations has been greatly increased.

The production end of the telecasts has also undergone considerable change and improvement. Much of the responsibility for this progress can be attributed to the physicians participating in the programs. Whenever possible, they have utilized visual material in the preparation of their clinics. Through the development of production techniques, several very effective methods of presenting operations are now available to the surgeon. He can do a straight running narration as he operates, carry on a question and answer session with a member of his operating team, hold a round-table discussion with other surgeons watching the operation on a monitor located in the studio, or periodically switch to an assistant in the studio who can discuss and demonstrate clinical material pertinent to the operation.

Perhaps the greatest change of all is to be found in the motives of the persons attending the program—the audience itself. For the first few years after the initiation of color television, almost every medical meeting the SKF unit visited was seeing color television for the first time. Naturally, the sheer novelty of the medium was a strong factor in inducing the doctors to attend the telecasts. It was difficult to ascertain whether the intended purpose of the medium—that of supplementing the postgraduate teaching programs of the meetings—was successful. As it developed, the audiences did not get smaller when the element of novelty faded; rather they increased in size. This was gratifying testimony to the place medical color television had won in the estimation of physicians no longer impressed with its "newness."

One might ask just what advantages color television brings to medical meetings. Without going into detail, a few of color TV's contributions to medical education can be cited. Only through the eye of the camera can hundreds of persons be brought to within a few feet—or a few inches—of interesting visual material. In a matter of seconds, the camera can accommodate itself to objects as different in size as a minute lesion and an iron lung. On the lecture platform, it is often inconvenient for speakers to introduce patients or even other specialists into their presentations. With the TV camera, such introductions are easily handled; in fact, they are highly desirable. The doctor-participant can also illustrate graphically the points he wishes emphasized. This visual reinforcement gives presentations much more impact than mere verbal references to points. Television can shift scenes readily. Thus an orthopedist can be televised giving a clinical demonstration of osteogenic sarcoma and, a few minutes later, the same surgeon can be shown performing a resection and bone graft to alleviate this condition in a patient. Unlike films, the presentations are individualized and completely natural. Because they are unrehearsed, the programs in general and the operations in particular are subject to all the drama of the unexpected. If a surgeon encounters unforeseen difficulties, the picture is not blacked out and the hundreds of persons in the audience are given the privilege of watching a surgeon cope with an immediate problem. Finally, there is color. The sharp contrast between color and black-and-white in the demonstration of medical subject matter will be seen by physicians attending the St. Louis meeting. The engineers will, from time to time, switch the camera to black-and-white. The loss of definition, depth, and detail will be obvious, as will be the change in the richness of the picture. The all-important asset of color, in combination with the advantages already mentioned, gives color television its surpassing distinction as an instrument for medical teaching.

SANITATION OF CRUSHED ICE

One of the most interesting problems that have recently demanded attention is that of the sanitary quality of the crushed ice used for ice water and other iced drinks. Because water-borne diseases may easily be spread by contaminated ice, ice used in iced drinks or in direct contact with food should conform bacteriologically to the accepted standards for potable water. Recent investigation [1] has shown that crushed ice for these purposes is often heavily contaminated with coliform organisms. These organisms may be introduced into crushed ice in many ways, chief among which are the introduction of dust during freezing into the cake from which the crushed ice is made; contamination of the cake from the floors of freezing rooms, trucks, and restaurants; and contamination from chippers, crushed ice containers, or human hands during dispensing. Of these, handling during dispensing was found to be the most prolific source. In an effort to correct this situation, a university dining hall was selected for an experiment. A solution of sodium hypochlorite containing 2 ppm of available chlorine was added to the container of crushed ice so as to nearly cover the ice. As a result, the bacterial count was greatly reduced, and no coliform organisms were found in any of the samples taken. The best feature of this procedure was that no chlorine flavor was imparted to the ice water or iced drinks. This comparatively simple measure was so successful that it might well become standard practice in places where crushed ice is used in serving food or drinks.

1. Moore, E. W.; Brown, E. W., and Hall, E. M.: Sanitation of Crushed Ice for Iced Drinks, Am. J. Pub. Health 43: 1265-1269 (Oct.) 1953.

MEDICAL NEWS

CALIFORNIA

Dr. Robson Named Acting Assistant Dean.—Dr. George B. Robson, associate clinical professor of medicine, Stanford University School of Medicine, San Francisco, has been named acting assistant dean of the school, succeeding Dr. William H. Northway, head of the division of physical medicine. Dr. Robson, who will remain in private medical practice in addition to his new duties as acting assistant dean, joined the medical faculty in 1937.

Annual Conference on Ophthalmology.—Stanford University School of Medicine, San Francisco, will present the annual postgraduate conference on ophthalmology, March 22-26, 1954. Registration (limited to 30) will be open to physicians who restrict their practice to the treatment of diseases of the eye or eye, ear, nose, and throat. Instructors will be Drs. A. Edward Maumenee, Dohrmann K. Pischel, Jerome W. Bettman, Max Fine, Earle H. McBain, and Arthur J. Jampolsky. Further information may be obtained from the Office of the Dean, Stanford University School of Medicine, 2398 Sacramento St., San Francisco 15.

CONNECTICUT

Meeting of Medicolegal Committee.—The first meeting of the recently formed conference committee of the Connecticut State Medical Society and the State Bar Association of Connecticut, Nov. 5, at the New Haven Lawn Club, was addressed by J. W. Holloway Jr., LL.B., Director of the A. M. A. Bureau of Legal Medicine and Legislation, who discussed the advantages and objectives of the conference type of committee organization.

Society News.—Dr. Thomas J. Danaher, Torrington, has been named chairman of the council of the Connecticut State Medical Society to succeed the late Dr. Joseph H. Howard, Bridgeport. Dr. Danaher, who is chairman of the professional policy committee and a director of Connecticut Medical Service, is also a past president of the society and of the Litchfield County Medical Association. He is attending surgeon at the Charlotte Hungerford Hospital, Torrington, a delegate from the state medical society to the American Medical Association, a director and past president of the Torrington Community Chest, and a director of the Torrington YMCA and the Diocesan Bureau of Social Service.

DISTRICT OF COLUMBIA

The Fourth Muscular Dystrophy Clinic.—The first muscular dystrophy clinic in Washington, D. C., the fourth in the United States, opened recently at Georgetown University Hospital. Dr. Tiffany Lawyer, assistant professor of neurology, is director of the clinic for the development of research in this field. Mr. Richard Woods, president, Washington chapter of the Muscular Dystrophy Association, formally opened the clinic and presented Sister Mary Antonella with a check to cover the expenditures for the first six months.

University News.—Dr. Hugh H. Hussey has been appointed head of the department of preventive medicine and public health at his alma mater, Georgetown University School of Medicine, Washington, D. C. He also becomes a member of the executive faculty of the medical school. Dr. Hussey, who interned in Georgetown University Hospital and served a fellowship in internal medicine there, was named instructor in clinical medicine at Georgetown in 1936, and in 1941 was raised to assistant professor. He is the senior consultant in medicine to Mount Alto Hospital, consultant in medicine at Glenn Dale Sanatorium, and vice-chairman of the Health Council for the Commissioners of the District of Columbia.

Physicians are invited to send to this department items of news of general interest, for example, those relating to society activities, new hospitals, education and public health. Programs should be received at least three weeks before the date of meeting.

FLORIDA

Personal.—Dr. Fred H. Albee Jr., Orlando, has accepted an Annie C. Kane fellowship in orthopedic surgery at the New York Orthopaedic Dispensary and Hospital, Columbia-Presbyterian Medical Center. Dr. Albee will be away from his practice for one year.

Seminar in Cytodiagnosis.—A seminar will be conducted by Dr. J. Ernest Ayre, director of the Cancer Institute at Miami, Nov. 27, for physicians interested in a short course of instruction in modern techniques, methods, and procedures in the application of cytodiagnosis to cancer detection. Registration fee is $5.

Semiannual Cerebral Palsy Clinic.—Dr. Harriet E. Gillette, Atlanta, will conduct the semiannual cerebral palsy diagnostic and recommendation clinic at the Crippled Children's Society, Nov. 23-25 from 9 a. m. to 5 p. m. Dade County Medical Association members are invited to refer patients to this clinic and are asked to make their appointments through the society as soon as possible. Clinics are held under the auspices of the Florida Crippled Children's Commission.

Society News.—At its annual meeting the Heart Association of Greater Miami installed Dr. Milton S. Saslaw, Miami Beach, as president and named Dr. Morton M. Halpern, Miami, president-elect, Dr. Jack L. Wright, Miami, vice-president, and Dr. Maurice Rich, Miami Beach, secretary. Three grants for heart research and one grant toward the support of a medical social service worker at the National Children's Cardiac Home in Miami, totaling $11,372, were awarded.

GEORGIA

Fifty Year Awards.—The Medical Association of Georgia recently presented to Drs. Lloyd E. Wilson, Bowdon, and John E. Garner Sr., Thomaston, pins and certificates of distinction in recognition of 50 years of service.

Rabies in Man.—According to the U. S. Public Health Service Department of Health, Education, and Welfare, Leland E. Starr, D.V.M., Georgia Department of Public Health, has reported a case of rabies in an 11-year-old boy. About two or three weeks after being attacked by a wild fox, a pup had inflicted a mild abrasion on the boy's hand. The boy died on Sept. 8 with typical symptoms of rabies. His brain was not examined for the disease, nor were those of the dog or the fox. The history and symptoms of both animals were typical of rabies.

ILLINOIS

University News.—Northwestern University Medical School, Chicago, has named the following faculty members to hold the Wallace C. and Clara A. Abbott professorships for the academic year 1953-1954: Dr. Carl A. Dragstedt, Park Ridge, professor of pharmacology; Dr. Fred S. Grodins and Allen Lein, Ph.D., Evanston, professor of physiology and associate professor of physiology, respectively; Dr. Willard T. Hill, Highland Park, associate professor of pathology; and Dr. E. Albert Zeller, Wilmette, professor of biochemistry.——Dr. Richard E. Marcus, Winnetka, assistant professor of otolaryngology, University of Illinois College of Medicine, Chicago, has been made an associate professor at the university, where he is also director of the unit for speech and hearing rehabilitation. Dr. Jerome T. Paul, assistant professor of medicine at the university, has been promoted to associate professor.——Dr. Donald P. Morris, formerly professor of psychiatry,

Southwestern Medical School of the University of Texas, Dallas, has been appointed professor of psychiatry and mental health in the Student Health Service at the University of Illinois, Champaign-Urbana.

Chicago

Physicians' Philharmonic Society.—The embryonic Physicians' Philharmonic Society of Chicago recently met in the rehearsal hall of the Gamble Hinged Music Company, 312 S. Wabash Ave., for the first of a series of practice sessions. Among the physicians who have expressed interest in forming a permanent group are Drs. Emerson K. McVey, Henrietta M. Herbolsheimer, Will F. Lyon, Joseph G. Kepecs, Elisabeth Rybar, Anna E. Robinson, and Jacob W. Fischer, chairman. The members voted to enlarge the scope of the orchestra by inviting all members of the healing professions to join them.

Tribute to Rudolph Holmes.—The meeting of the Chicago Gynecological Society at the Knickerbocker Hotel, Nov. 20, opened with a tribute to the late Dr. Rudolph W. Holmes, by invitation delivered by Dr. Ralph E. Campbell, University of Wisconsin Medical School, Madison. Other presentations, all by invitation, were: "Follow-up on Pyelitis in Childhood, with Reference to Urinary Tract Disease During Pregnancy," by Dr. J. Donald Woodruff, Johns Hopkins University School of Medicine, Baltimore; "Circulatory Abnormalities in Pregnancy and Nonpregnancy States," by Dr. Edward A. Banner, Mayo Clinic, Rochester, Minn.; and "Nutritional Deficiencies as Casual Factors in Maternal and Fetal Mortality," by Dr. Robert McNair Mitchell, University of Pennsylvania School of Medicine, Philadelphia. An all-day clinical meeting including operative clinics and an obstetrical symposium was held at Passavant Memorial Hospital.

Personal.—Dr. John B. Hall Jr., director of the Cook County Department of Public Health, has been appointed clinical assistant professor of pediatrics at the University of Illinois College of Medicine.——Bankers Life and Casualty Company of Chicago has appointed Dr. Marvin C. Ziporyn, formerly assistant medical director of the Armour Laboratories, as medical director.——Dr. Paul R. Hawley, Chicago, director of the American College of Surgeons, was recently appointed by Governor Stratton as a member of the Illinois Board of Public Welfare Commissioners.——Dr. William S. Kroger, assistant professor of gynecology, Chicago Medical School, recently gave a lecture, entitled "Psychosomatic Aspects of Obstetrics and Gynecology," at Yale University School of Medicine, New Haven, Conn., Jewish Sanitarium and Hospital for Chronic Diseases, Brooklyn, Lenox Hill Hospital, American Society for Research in Experimental and Clinical Hypnosis, Payne Whitney Clinic, New York Hospital, Lying-In Hospital, Mount Sinai Hospital, and Sloane Hospital for Women, Columbia Medical Center, New York.——Dr. James A. Campbell, director of the medical service at Presbyterian Hospital in Chicago, has rejoined the faculty of the University of Illinois College of Medicine with the rank of professor of medicine. Dr. Campbell returned to Chicago from Albany, N. Y., where he served for two years as dean and professor of medicine at Albany Medical College.——Dr. Leonard Cardon, associate professor of medicine, Northwestern University Medical School, addressed the meeting of the 11th councilor medical district of Indiana, at Huntington, Sept. 16 on some practical considerations in the diagnosis and management of acute coronary occlusion.——Dr. Franklin C. McLean was one of 11 faculty members of the University of Chicago retired with an emeritus status at the close of the recent summer quarter. Dr. McLean will remain at the university to continue research on the physiology of bone, a project now being conducted on a Josiah Macy Jr. Foundation grant.

MINNESOTA

New Occupational Medicine Academy.—On Oct. 1 the Minnesota Academy of Occupational Medicine and Surgery was organized in Minneapolis, and the following officers were elected: president, Dr. Wilford E. Park; vice-president, Dr. John F. Shronts; secretary, Dr. Leslie W. Foker; treasurer, Dr. James R. Fox, all of Minneapolis; and recorder, Dr. Herman E. Drill, Hopkins. Executive board members are Drs. Edwin G. Benjamin and Leonard S. Arling, both of Minneapolis.

Research on Emergency Food Needs.—Minimum food needs in cases of emergency are being studied in a five year research program by the University of Minnesota Laboratory of Physiological Hygiene. Sponsored by the Quartermaster General and Surgeon General of the Army, these new studies are designed to help the Department of Defense plan for military emergencies. Nineteen soldiers from Ft. Lee, Va., have volunteered for rigid discipline and periods of hunger and discomfort in the first of a series of experiments, each lasting six to eight weeks. Circulation tests to be used will dovetail with the main long-term research of the laboratory on heart disease and aging of the blood vessels.

NEBRASKA

Memorial to Dr. Manning.—A public health scholarship fund memorializing the late Dr. Ernest T. Manning of Omaha has been established at the University of Nebraska. Income from the $4,000 fund will provide scholarships for undergraduate students in the university's college of medicine who plan to specialize in the field of public health. Dr. Manning was assistant professor of pathology at the college from 1909 to 1920. He then served in the Omaha Public Health Service and later as public health officer of Omaha city schools. During World War II, he was a part-time member of the university's medical faculty.

NEW JERSEY

Society News.—At the annual fall meeting of the New Jersey Orthopaedic Society in Long Branch, Dr. Henry H. Kessler, Newark, was elected president, Dr. John J. Flanagan, Newark, president-elect, Dr. William Kruger, Newark, secretary, and Dr. Harold T. Hansen, South Orange, treasurer.

Meeting of Chest Physicians.—The New Jersey chapter, American College of Chest Physicians, will meet at the Bonnie Burn Sanatorium, Scotch Plains, Nov. 24, 8:30 p. m. "Mediastinal Tumors" will be presented by Dr. Herbert C. Maier, director of surgery, Lenox Hill Hospital, New York, and discussed by Dr. George N. Sommer, thoracic surgeon, St. Francis and F. W. Donnelly Memorial hospitals, Trenton. A collation will follow.

Fiftieth Anniversary Issue.—The September number of the *Journal of the Medical Society of New Jersey*, the 50th anniversary issue, includes half-century reviews of medicine (Dr. George H. Lathrop, Morristown); surgery (Dr. David B. Allman, Atlantic City); maternal welfare (Dr. Hammell P. Shipps, Camden); otolaryngology (Dr. Henry B. Orton, Newark); pharmacology (Dr. Rowland D. Goodman, Trenton); public health (Dr. Daniel Bergsma, Trenton); and urology (Dr. Clarence R. O'Crowley, Newark); as well as the article, "The Military Role of New Jersey Physicians in the Past Fifty Years" by Dr. Henry A. Brodkin, Newark. Dr. Julius Gerendasy, Elizabeth, contributes an article on the history of the New Jersey Gastroenterological Society, whose 20th anniversary coincides with the journal's 50th.

NEW YORK

Postgraduate Course in Ophthalmology.—The department of ophthalmology of the State University of New York College of Medicine at Syracuse will present its fourth annual postgraduate course in ophthalmology at the Hotel Syracuse, Dec. 11-12. Guest lecturers include Drs. Alan C. Woods, Baltimore, Harold F. Falls, Ann Arbor, Mich., and Hunter H. Romaine and Franklin M. Foote, New York. The tuition fee ($25 payable to the State University of New York College of Medicine at Syracuse) covers tuition, daily luncheons, and dinner Friday night. The course will be limited to 60 members who will be accepted in the order in which applications accompanied by checks are received. Inquiries may be addressed to Dr. Harold H. Joy, 504 State Tower Building, Syracuse.

State Housing for the Handicapped.—Herman T. Stichman, the state housing commissioner, announces that a substantial number of apartments equipped to serve the needs of the physically handicapped (the aged and those orthopedically handicapped) are to be provided in state-aided public housing projects for persons of low income. "New York State has a $735 million slum clearance and public housing fund for families of low income, coupled with cash subsidies of $25 million annually," he said, "and the handicapped and aging are particularly entitled to its benefits." Special installations in state-aided housing projects for the aging include: bathtubs with seats, nonslip bathroom floors, no thresholds, electric instead of gas stoves, cabinets at lower levels, apartments on the sunny side, and extra heat. For those suffering from orthopedic handicaps the special installations will be based on experiments at the Rehabilitation Institute of New York University-Bellevue Medical Center. They include: ramps, living and bedrooms 10% larger than normal public housing standards, nonslip flooring, casement type windows with mechanical operators, high wash basins and kitchen sink counters to permit use by tenant in a wheelchair, electric ranges, and showers in addition to bathtubs.

New York City

Personal.—The American Medical Women's Association has presented a citation to Dr. Ada Chree Reid, retiring editor of the *Journal of the American Medical Women's Association* in appreciation of her outstanding service to the journal and to the advancement of the interests of the association.

Reiss Memorial Lecture.—Dr. Paul Klemperer, pathologist, Mount Sinai Hospital, will deliver the second Herman L. Reiss memorial lecture, "The Anatomic Concept in Pathology," before the New York Institute of Clinical Oral Pathology at the New York Academy of Medicine, Nov. 23, 8:30 p. m.

Course on Physical Therapy.—The Institute of Physical Medicine and Rehabilitation, New York University-Bellevue Medical Center and the New York University school of education are again offering a four week course, "Advanced Physical Rehabilitation Methods for Physical Therapists" (Nov. 23-Dec. 18; Feb. 1-26, 1954; May 2-29), with four points of university credit. Tuition fee is $80; registration fee, $8. Qualified veterans may enroll under the provision of P. L. 346 or P. L. 16. The course, which will cover (1) severe disabilities and their rehabilitation, (2) skills and methods of functional activities, and (3) clinical experience, is open to certified physical therapists who have the approval of the curriculum director. Applications should be submitted to the director, Rehabilitation Courses for Physical Therapists, Institute of Physical Medicine and Rehabilitation, 325 E. 38 St., New York 16.

NORTH CAROLINA

Nuclear Reactor at State College.—Loading of fissionable material in the nation's first university-owned nuclear reactor began at North Carolina State College of Agriculture and Engineering, Raleigh, at 12:59 a. m., Sept. 5. The project was started in June, 1950, when the college, under contract to the Atomic Energy Commission, initiated the design and construction of a low-powered research reactor. The building to house the reactor was completed in May, 1953. One of the major purposes of the reactor will be to supply reactor experience to undergraduate and graduate students in nuclear engineering, a new curriculum initiated by the college in 1950. A program of research on the reactor itself is scheduled for the first year of its operation, after which the emphasis will shift to the use of radiations and radioactive isotopes produced by the reactor.

Death of Professor Bronfenbrenner.—Jacques J. Bronfenbrenner, Ph.D., D.P.H., research professor of microbiology and immunology, Bowman Gray School of Medicine of Wake Forest College, Winston-Salem, died Aug. 13 of myocardial infarction. Dr. Bronfenbrenner, born Nov. 20, 1883, in Cherson, Russia, was an assistant at the Imperial University, Odessa, Russia, in 1905, and in 1908 and 1909 was an assistant at the Pasteur Institute, Paris, France. He came to the United States and was naturalized in 1913. From 1909 to 1913 he was a fellow and assistant at the Rockefeller Institute in New York (where he later was an associate fellow, 1923-1928); from 1913 to 1917 Dr. Bronfenbrenner was director of the research and diagnostic laboratories of Western Pennsylvania Hospital in Pittsburgh; and from 1917 to 1923 was assistant professor of preventive medicine and hygiene at Harvard University School of Medicine, Boston. Named head of the department of bacteriology and immunology at Washington University School of Medicine, St. Louis, in 1928, he held that post until his retirement in 1952, when he joined the Bowman Gray faculty. Dr. Bronfenbrenner, who received the Pasteur award of the Illinois Bacteriologists in 1950, served as president of the American Association of Immunologists from 1942 to 1946. A son, Dr. Jack Bronfenbrenner, is a physician in Benton Harbor, Mich.

OKLAHOMA

Lecture on Cancer.—Dr. J. Samuel Binkley, Oklahoma City, will address the Tulsa Academy of General Practice, Nov. 23, at Hotel Tulsa on indications for the early surgical treatment of cancer. All physicians are invited. Reservations for dinner, 6:30 p. m., may be made by calling 2-5904. The scientific program will be at 8 p. m.

Personal.—Dr. Hiram G. Campbell, Tecumseh, who at the age of 80 completed 50 years in the practice of medicine, was awarded a 50 year pin at a recent meeting of the Pottawatomie County Medical Society. Dr. Campbell is a former president of the Pottawatomie County Medical Society.——Dr. Othel J. Gee, Oklahoma City, has been elected National Commander of the Army and Navy Legion of Valor of the United States of America at the 63rd annual reunion in Lexington, Ky. Membership in the legion of valor is restricted to holders of the Congressional Medal of Honor, the Distinguished Service Cross, or the Navy Cross.——Dr. Edward C. Reifenstein Jr., Oklahoma City, has been appointed director of biological and therapeutic research for the Schering Corporation. For the past two and one-half years he has served as director of the Oklahoma Medical Research Institute and Hospital in Oklahoma City. Charles D. Kochakian, Ph.D., formerly associate director, has been appointed co-ordinator of research of the Oklahoma Medical Research Foundation, Oklahoma City, to replace Dr. Reifenstein.——Dr. Stewart G. Wolf Jr., professor of medicine, University of Oklahoma School of Medicine, Oklahoma City, has assumed, in addition to his regular duties, the responsibilities of supervisor of clinical activities in the Oklahoma Medical Research Hospital.

PENNSYLVANIA

Rabies in Bats.—According to the Department of Health, Education, and Welfare, U. S. Public Health Service, E. J. Witte, veterinarian, Pennsylvania Department of Health, reported that rabies infection in a bat has been confirmed by the State Bureau of Animal Industry. On Sept. 29 the bat attacked a woman living in the south central part of the state. The bat was captured, and its brain tissue showed suggestive signs of rabies, which were confirmed by animal inoculation. Studies were in progress to ascertain the extent of rabies in the area where the bat was caught.

Philadelphia

Hospital News.—The 67th annual banquet of the Association of Ex-Resident and Resident Physicians of the Philadelphia General Hospital will be held Dec. 1 in the Penn-Sheraton Hotel, 39th and Chestnut Sts. For reservations, address Dr. John D. Corbit Jr., 3717 Chestnut St., Philadelphia 4.

Philips Lecture.—Dr. Haven Emerson, emeritus professor of public health, Columbia University College of Physicians and Surgeons, New York, will discuss "Preventive Medicine and Public Health" at Roberts Hall, Haverford College, Nov. 24, 11 a. m. This is one of the lectures in the William Pyle Philips series, "New Frontiers in Medicine."

Pittsburgh

Narcotic Violation.—Dr. Abraham J. Ishlon, 1910 Carson St., pleaded guilty in the U. S. District Court of Pittsburgh to a charge of violating the Federal narcotic law. On Sept. 14 he received a sentence of two years on probation.

Lectures in Ophthalmology.—Special lectures in the basic science of ophthalmology will be given in evening sessions throughout the school term of the University of Pittsburgh School Medicine by the staff of the Eye, Ear, Nose and Throat Hospital. These lectures are free to physicians. The schedule may be obtained from Dr. Murray F. McCaslin, chief, eye service, Eye, Ear, Nose and Throat Hospital.

SOUTH DAKOTA

Fifty Year Club.—Dr. Robert J. Jackson, Rapid City, recently became the 18th South Dakota physician to receive membership in the South Dakota State Medical Association's 50 year club. Dr. Jackson served as county coroner from 1903 to 1923 and as mayor of Rapid City for two years.

University News.—Rubert S. Anderson, Ph.D., resigned Oct. 1 as professor of physiology and pharmacology, University of South Dakota School of Medical Sciences, Vermillion, to accept appointment at the Army Chemical Center, Bethesda, Md., where he will be on the medical laboratory staff as a civilian in research work. He will also teach graduate students from the University of Maryland School of Medicine and College of Physicians and Surgeons in Baltimore.

VIRGINIA

Dr. Ware Honored.—Dr. H. Hudnall Ware Jr., head of the department of obstetrics at the Medical College of Virginia, Richmond, was honored on Sept. 18 by a group of his former students on the 25th anniversary of his joining the college staff. At a dinner tendered Dr. and Mrs. Ware, a scholarship and student loan fund was announced in his honor.

Public Relations Conference.—The public relations committee of the Medical Society of Virginia will present a combination public relations and public information conference Nov. 24 at the Hotel John Marshall in Richmond. The morning will be devoted to the woman's auxiliary. The afternoon program will be of a public information nature, and the problems of the medically indigent and the chronically ill will be considered. Participating will be representatives from the League of Virginia Counties, Virginia Hospital Association, State Health Department, State Welfare Department, Virginia Council on Health and Medical Care, and other interested groups.

WEST VIRGINIA

Past Presidents in House of Delegates.—Under an amendment affecting the service of past presidents as members of the house of delegates, adopted at the annual meeting of the West Virginia State Medical Association in White Sulphur Springs, all living past presidents, and the incumbent, Dr. James S. Klumpp, Huntington, will continue to serve as members of the house of delegates as long as they live; but presidents elected in 1953 and for the years following will be limited to three years of service in the house (the year they serve as president and the two years following).

HAWAII

Personal.—Dr. Walter B. Quisenberry of the Department of Health, Territory of Hawaii, Honolulu, recently returned from the British Isles, where he attended the annual meeting of the British Medical Association in Cardiff, Wales, as the official AMA delegate. Dr. Quisenberry participated in a panel on cancer and the community.

Leprologist Wanted.—A medical director is needed for Kalaupapa Settlement, Molokai (salary, $8,800-$9,800 with perquisites). The following training and experience are required: (1) four years of experience as a physician, of which two years shall have involved treatment of Hansen's disease, and graduation from a medical school of recognized standing, including, or supplemented by, one year of internship in a recognized general hospital; or (2) any equivalent combination of experience and training. The physician must be licensed to practice medicine in the Territory of Hawaii. Address the Board of Health, Box 3378, Honolulu.

GENERAL

Multiple Sclerosis Grant.—A grant of $34,354 has been awarded to the National Multiple Sclerosis Society by the Kresge Foundation, in memory of the late Paul W. Voorhies, former president of the foundation. The grant will further the multiple sclerosis research project at the New York University-Bellevue Medical Center, already established by the society and to which it has allocated over $100,000.

Association of Medical Clinics.—At the annual meeting in Chicago the American Association of Medical Clinics installed Dr. Wayne Gordon, Billings Clinic, Billings, Mont., as president, named Dr. J. C. Thomas Rogers, Carle Hospital Clinic, Urbana, Ill., vice-president and president-elect, and reelected Dr. Arthur H. Griep, Welborn Clinic, Evansville, Ind., secretary-treasurer. The next annual meeting will be held in New Orleans.

Tuberculosis Achievement Awards.—The Variety Club-Will Rogers Hospital, Saranac Lake, N. Y., announces that an annual achievement awards program will be initiated as a stimulus in the fight against tuberculosis and other chest diseases. The first presentation of the annual awards will be made at the 20th annual meeting of the American College of Chest Physicians in San Francisco, June 17-20, 1954. Nominees for the awards will be selected by the college. A committee of judges will determine eligibility. Sculptured bronze plaques and cash honorarium will be awarded in each of the three fields: the greatest discovery in research, the most important medical contribution, and the highest achievement in surgery of chest diseases.

National Advisory Committee Meeting in St. Louis, Dec. 2.—The National Advisory Committee to the Selective Service System is meeting in St. Louis at the time of the A. M. A. Clinical Meeting. The committee would appreciate it if any chairman or member of a state or local committee who happens to be in attendance at the Clinical Meeting would meet with the national committee at 2 p. m., on Wednesday, Dec. 2. The place of the meeting will be announced later.

The advisory committee, 451 Indiana Ave., N.W., Washington 25, D. C., would appreciate hearing from those who expect to be present so that the necessary arrangements can be made for the proper-sized meeting room. It will not be possible for travel to be reimbursed by the government because of budgetary limitations. The committee hopes, however, that there will be a number of chairmen and committee members who will be present.

American Foundation for Allergic Diseases.—Dr. Horace S. Baldwin, New York, is president of the newly formed American Foundation for Allergic Diseases, which has headquarters at 525 Lexington Ave., at 49th St., New York. This voluntarily supported, nonprofit organization, was created after a fact-finding survey by members of the executive committee of the American Academy of Allergy and the board of regents of the American College of Allergists. The foundation will promote through public education an understanding of the problems of allergic diseases, inform and educate the medical profession in the problems of allergy, cooperate with medical institutions, hospitals, and other organizations in the development of facilities for the treatment and prevention of allergic diseases, and finance facilities for research in allergic diseases, including fellowships and residencies. The other officers of the foundation are: Dr. J. Warrick Thomas, Richmond, Va., vice-president; Dr. Bret Ratner, New York, secretary; and Dr. Theodore L. Squier, Milwaukee, treasurer.

Symposium on Glutathione.—A symposium on glutathione research, sponsored by the National Science Foundation and the Office of Naval Research, Washington, D. C., and administered by Columbia University, New York, is being held in Ridgefield, Conn., Nov. 20-21. The role of glutathione in enzyme actions, growth, and the creation of body energy and as a therapeutic agent against radiation damage and certain diseases, such as diabetes, will be considered. Five sessions have been scheduled to discuss organic chemistry of sulfhydryl compounds and glutathione, biosynthesis of glutathione and its role in peptide synthesis, methods for determination of glutathione, glutathione as a coenzyme, and relation of glutathione to metabolism and disease. Physicians directing the symposium include Drs. Arnold Lazarow, Cleveland, Ephraim Racker, New Haven, Conn., and Heinrich Waelsch, New York.

Red Cross Adopts Changes in First Aid Techniques.—Two major changes in first aid care, adopted on recommendations by the committee on surgery of the division of medical sciences, National Research Council, are announced in a new supplement to the American Red Cross First Aid Textbook. It is now recommended that a tourniquet be applied close to the wound, with unbroken skin between it and the wound; remain undisturbed until released by a physician; and be used only for severe life-threatening hemorrhage that cannot be controlled by other means. In frostbite or prolonged exposure to cold, rapid warming is recommended instead of the previously approved gradual thawing out of a frozen part in cool water or in a cool room. The victim is to be brought into a warm room as quickly as possible and placed in a tub of warm, not hot, water or wrapped in warm blankets. Rubbing of the frozen part is not recommended, but, after the part is rewarmed, the victim should be encouraged to exercise fingers and toes. The supplement includes the technique for the back-pressure-arm-lift method of artificial respiration, adopted by the Red Cross in 1951. Free copies of the supplement may be obtained through local Red Cross chapters.

Surgeons Meeting in Los Angeles.—At a regional meeting of the International College of Surgeons at the Ambassador Hotel, Los Angeles, Nov. 28-29, a panel discussion of diagnostic problems, surgical management, and preoperative and postoperative care of the acute abdomen will be held Saturday. Dr. Arnold S. Jackson, Madison, Wis., will preside at the afternoon session, when the presentations will include "Postgastrectomy Syndromes," "The Pathological Intrahepatic Gallbladder and Related Anomalies," "Considerations of Nonmalignant Skin Tumors," and "Dupuytren's Contracture." Sunday morning Dr. Joseph M. de los Reyes, Los Angeles, will preside. Presentation of "Total Gastrectomy for Cancer" and "Anesthesia for Chest and Transthoracic Abdominal Surgery" will be followed by a panel discussion, "Chest and Transthoracic Abdominal Surgery and Anesthesia." Sunday afternoon Dr. Henry W. Meyerding, Rochester, Minn., will preside. "Transposed Flaps in the Repair of Surface Defects," "Your Hearing Impairment," "Precancerous Lesions Encountered in Routine Anorectal Examination," "Abdominal Symptoms of Genitourinary Pathology," and "Tumors of the Neck" are scheduled. The meeting is open to the medical profession.

Cancer Grants.—A grant of $79,110 to Columbia University College of Physicians and Surgeons, New York, for six projects under the guidance of Dr. Alfred A. Gellhorn, director of the Institute of Cancer Research, was the principal allocation among $181,670 in September grants made to eight institutions in New York City and three states by the Damon Runyon Memorial Fund for Cancer Research. Fellowships totaling $24,400 were approved for six research scientists engaged in various projects of cancer study. The Memorial Center for Cancer and Allied Diseases was the recipient of three individual grants: (1) $22,000 for a project under the direction of Dr. James J. Nickson and John S. Laughlin, Ph.D., entitled "Studies to Evaluate the Role of High Energy Radiation in Cancer Patients"; (2) $9,500 for a new project, "Quantitative Analysis of the Cell by Interference Microscopy," undertaken by Dr. Robert C. Mellors; and (3) $10,000 to Dr. Olof H. Pearson to study "The Effects of Altered Hormonal Environment on the Growth of Carcinoma of the Breast in Women." University of Oregon Medical School, Portland, received $17,000 for a study to be carried on by Dr. Thomas B. Fitzpatrick, Dr. Aaron B. Lerner, and Howard S. Mason, Ph.D., entitled "Metabolism of Melanomas." Two new institutions are included in the allocations: Chicago Medical School, in the amount of $4,860 for a study "Metastatic Dissemination of Tumors Induced by Cortisone" and New Mexico Highlands University, Las Vegas, N. Mex., $4,800 for a projected study, entitled "Synthesis of Some Imidazo (c) Pyridines as Potential Purine Antagonists." The latest grants brought the total money distributed to $7,246,786.

MEETINGS

AMERICAN MEDICAL ASSOCIATION: Dr. George F. Lull, 535 North Dearborn St., Chicago 10, Secretary.

1953 Clinical Meeting, St. Louis, Dec 1-4.

1954 Annual Meeting, San Francisco, June 21-25.

1954 Clinical Meeting, Miami, Florida, Nov. 30-Dec. 3.

1955 Annual Meeting, Atlantic City, N. J., June 6-10.

1955 Clinical Meeting, Boston, Nov. 29-Dec. 2.

AMERICAN ACADEMY OF DERMATOLOGY AND SYPHILOLOGY, Palmer House, Chicago, Dec. 5-10. Dr. John E. Rauschkolb, P. O. Box 6565, Cleveland 1, Secretary.

AMERICAN ACADEMY OF OBSTETRICS AND GYNECOLOGY, Netherland Plaza Hotel, Cincinnati, Dec. 14-16. Dr. C. Paul Hodgkinson, 116 South Michigan Blvd., Chicago 3, Secretary.

AMERICAN FEDERATION FOR CLINICAL RESEARCH, Eastern Section, Amphitheater, Children's Medical Center, Boston, Jan. 4. Dr. Walter Judson, Evans Memorial Hospital, Boston, Chairman.

AMERICAN LARYNGOLOGICAL, RHINOLOGICAL AND OTOLOGICAL SOCIETY:

EASTERN SECTION, Waldorf-Astoria, New York, Jan. 8. Dr. Francis W. Davison, Danville, Pa., Chairman.

SOUTHERN SECTION, Brown Hotel, Louisville, Ky., Jan. 16. Dr. Lester A. Brown, 490 Peachtree St., N.E., Atlanta 3, Ga., Chairman.

ASSOCIATION FOR RESEARCH IN NERVOUS AND MENTAL DISEASES, Hotel Roosevelt, New York, Dec. 11-12. Dr. Clarence C. Hare, 710 West 168th St., New York 32, Secretary.

NATIONAL SOCIETY FOR THE PREVENTION OF BLINDNESS, New York, Dec. 18. Dr. Franklin M. Foote, 1790 Broadway, New York 19, Executive Director.

RADIOLOGICAL SOCIETY OF NORTH AMERICA, Palmer House, Chicago, Dec. 13-18. Dr. Donald S. Childs, 713 East Genesee St., Syracuse 2, N. Y., Secretary.

REGIONAL MEETINGS, AMERICAN COLLEGE OF PHYSICIANS:

EASTERN PENNSYLVANIA, Philadelphia, Jan. 15. Dr. Thomas M. McMillan, 330 S. Ninth St., Philadelphia 7, Governor.

MICHIGAN, H. H. Rackham Auditorium, Ann Arbor, Dec. 5. Dr. H. Marvin Pollard, 1313 East Ann St., Ann Arbor, Governor.

NORTH CAROLINA, Chapel Hill, Dec. 3. Dr. Elbert L. Persons, Duke Hospital, Durham, Governor.

SOUTHERN SURGICAL ASSOCIATION, The Homestead, Hot Springs, Va., Dec. 8-10. Dr. John C. Burch, 2112 West End Ave., Nashville 5, Tenn., Secretary.

WESTERN SURGICAL ASSOCIATION, The Drake, Chicago, Dec. 3-5. Dr. Michael Mason, 154 East Erie St., Chicago 11, Secretary.

FOREIGN

ASSOCIATION OF SURGEONS OF GREAT BRITAIN AND IRELAND, Leeds, England, May 13-15, 1954. Dr. Henry W. S. Wright, 45 Lincoln's Inn Fields, London W.C.2, England, Honorary Secretary.

BRITISH MEDICAL ASSOCIATION, Glasgow, Scotland, July 1-9, 1954. Dr. A. MaCrae, B.M.A. House, Tavistock Square, London, W.C.1, England, Secretary.

CANADIAN MEDICAL ASSOCIATION, Vancouver, B. C., Canada, June 18-22, 1954. Dr. T. C. Routley, 135 St. Clair Ave. W., Toronto 5, Ont., Canada, General Secretary.

CONFERENCE OF INTERNATIONAL UNION AGAINST TUBERCULOSIS, Madrid, Spain, Sept. 26-Oct. 2, 1954. Secretariat, Escuela de Tisiologia, Ciudad Universitaria, Madrid, Spain.

CONGRESS OF INTERNATIONAL ASSOCIATION FOR THE PREVENTION OF BLINDNESS, New York, N. Y., U. S. A., Sept. 12-17, 1954. Professor Franceschetti, 2 Avenue Mirmot, Geneva, Switzerland, Secretary-General.

CONGRESS OF INTERNATIONAL SOCIETY OF SURGERY, Paris, France, May 21-22, 1954. Dr. L. Dejardin, 141, rue Belliard, Brussels, Belgium, General Secretary.

INTERNATIONAL CANCER CONGRESS, Sao Paulo, Brazil, July 23-29, 1954. Prof. A. Prudente, 171 rua Benjamin Constante, Sao Paulo, Brazil, President.

INTERNATIONAL CONFERENCE ON THROMBOSIS AND EMBOLISM, Basle, Switzerland, July 15-19, 1954. Dr. W. Merz, Chief Medical Officer, Gynecological Clinic, University of Basle, Basle, Switzerland, Hon. Secretary.

INTERNATIONAL CONGRESS OF CLINICAL PATHOLOGY, Washington, D. C., U. S. A., Sept. 6-10, 1954. Dr. Robert A. Moore, Washington University School of Medicine, St. Louis 10, Missouri, U. S. A., Chairman, Committee on Arrangements.

INTERNATIONAL CONGRESS ON DISEASES OF THE CHEST, Barcelona, Spain, Oct. 4-8, 1954. Mr. Murray Kornfeld, 112 East Chestnut St., Chicago 11, Illinois, Executive Secretary.

INTERNATIONAL CONGRESS ON GROUP PSYCHOTHERAPY, Toronto, Ont., Canada, Aug. 12-14, 1954. Dr. J. L. Moreno, Room 327, 101 Park Ave., New York 17, N. Y., U. S. A., Director of Organizing Committee.

INTERNATIONAL CONGRESS OF HEMATOLOGY, Paris, Sept. 6-11, 1954. Dr. Jean Bernard, 86 rue d'Assas, Paris 6e, France, Secretary.

INTERNATIONAL CONGRESS OF THE HISTORY OF MEDICINE, Rome and Salerno, Italy, Sept. 13-20, 1954. For information write: Segreteria XIV Congresso Internazionale di Storia della Medicina, Instituto di Storia della Medicine, Citta Universitaria, Rome, Italy.

INTERNATIONAL CONGRESS OF HYDROCLIMATISM AND THALASSOTHERAPY, Dubrovnik, Yugoslavia, May 8-16, 1954. Prof. C. Plavsic, Zeleni Venac 1, Belgrade, Yugoslavia, Secretary General.

INTERNATIONAL CONGRESS OF INDUSTRIAL MEDICINE, Naples, Italy, Sept. 13-19, 1954. Professor Scipione Caccuri, Director, Institute of Industrial Medicine Policlinico, Naples, Italy, Chairman, Organizing Committee.

INTERNATIONAL CONGRESS OF INTERNAL MEDICINE, Stockholm, Sweden, Sept. 15-18, 1954. Professor Anders Kristenson, Karolinska Sjukhuset, Stockholm 60, Sweden, Secretary-General.

INTERNATIONAL CONGRESS OF INTERNATIONAL COLLEGE OF SURGEONS, Sao Paulo, Brazil, April 26-May 2, 1954. Dr. Max Thorek, 1516 Lake Shore Drive, Chicago, Illinois, U. S. A., Secretary-General.

INTERNATIONAL CONGRESS ON MENTAL HEALTH, University of Toronto, Toronto, Ontario, Canada, Aug. 14-21, 1954. For information write: Executive Officer, International Congress on Mental Health, 111 St. George St., Toronto, Ontario, Canada.

INTERNATIONAL CONGRESS OF NUTRITION, Amsterdam, Netherlands, Sept. 14-18, 1954. For information write: Dr. M. van Eekelen, Centraal Instituut voor Voedingsonderzoek T.N.O., 61 Catharynesingel, Utrecht, Netherlands.

INTERNATIONAL CONGRESS ON OBSTETRICS AND GYNECOLOGY, Geneva, Switzerland, July 26-31, 1954. Dr H. de Watteville, Maternité Hôpital Cantonal, Geneva, Switzerland, President.

INTERNATIONAL CONGRESS OF OPHTHALMOLOGY, University of Montreal and McGill University, Montreal, Canada, Sept. 10-11, 1954, and Waldorf-Astoria, New York, N. Y., U. S. A., Sept. 12-17, 1954. Dr. William L. Benedict, 100 First Avenue Building, Rochester, Minnesota, U. S. A., Secretary-General.

INTERNATIONAL CONGRESS OF ORTHOPEDIC SURGERY AND TRAUMATOLOGY, Berne, Switzerland, Aug. 30-Sept. 3, 1954. For information write: Professor M. Dubois, Isle-Hospital, Berne, Switzerland.

INTERNATIONAL CONGRESS OF PSYCHOLOGY, Montreal, Canada, June 7-12, 1954. For information write: Prof. H. S. Langfeld, International Union of Scientific Psychology, Eno Hall, Princeton University, Princeton, N. J., U. S. A.

INTERNATIONAL CONGRESS FOR PSYCHOTHERAPY, Zurich, Switzerland, July 21-24, 1954. Dr. H. K. Fierz, Theaterstrasse 12, Zurich 1, Switzerland, Secretary General.

INTERNATIONAL GERONTOLOGICAL CONGRESS, London and Oxford, England, July 12-22, 1954. Prof. R. E. Tunbridge, General Infirmary, Department of Medicine, The University, Leeds, England, President.

INTERNATIONAL POLIOMYELITIS CONGRESS, Rome, Italy, Sept. 6-10, 1954. Mr. Stanley E. Henwood, 120 Broadway, New York 5, N. Y., U. S. A., Executive Secretary.

INTERNATIONAL SOCIETY OF BLOOD TRANSFUSION, Paris, France, Sept. 12-19, 1954. For information write: Colonel Julliard, Societe Internationale de Transfusion Sanguine, 53 Boulevard Diderot, Paris 12e, France.

INTERNATIONAL SOCIETY FOR CELL BIOLOGY, Leiden, Netherlands, Sept. 2-9, 1954. Professor Peter J. Gaillard, University of Leiden, Leiden, Netherlands, Secretary.

INTERNATIONAL SOCIETY OF GEOGRAPHICAL PATHOLOGY, Washington, D. C., U. S. A., Sept. 6-10, 1954. Professor Fred C. Roulet, Hebelstrasse 24, Basle, Switzerland, Secretary-General.

JOURNEES MEDICALES, Paris, France, April 21-25, 1954. For information write: Secretariat of the Journees, 12, rue Pierre-Geofroix, Colombes (Seine) France.

LATIN AMERICAN CONGRESS OF OTORHINOLARYNGOLOGY, Caracas, Venezuela, Feb. 21-25, 1954. Dr. Victorino Marquez Reveron, Centro, Medico, Caracas, Venezuela, Secretary-General.

LATIN AMERICAN CONGRESS OF PHYSICAL MEDICINE, Medellin, Columbia, South America, Feb. 25-20, 1954. Dr. Cassius Lopez de Victoria, 176 East 71st St., New York 21, N. Y., U. S. A., Executive Director.

PAN AMERICAN CONGRESS OF OTORHINOLARYNGOLOGY AND BRONCHOESOPHAGOLOGY, Mexico, D.F., Mexico, Feb. 28-March 4, 1954. Dr. Pedro Hernandez Gonzalo, 8 No. 358, Vedado, Havana, Cuba, General Secretary.

PAN AMERICAN MEDICAL ASSOCIATION, International Medical Cruise Congress, S. S. Nieuw Amsterdam, Jan. 6-22, 1954. Dr. Joseph J. Eller, 745 Fifth Avenue, New York 22, N. Y., U. S. A., Executive Director.

PAN-PACIFIC SURGICAL CONGRESS, Honolulu, Hawaii, Oct. 7-18, 1954. Dr. F. J. Pinkerton, Suite 7, Young Bldg., Honolulu 13, Hawaii, Director General.

PERSIAN GULF MEDICAL SOCIETY, Dhahran, Saudi Arabia, Dec. 7-8. Dr. N. J. Conan Jr., Department of Internal Medicine, Arabian American Oil Company, Dhahran, Saudi Arabia, Secretary.

SECTIONAL MEETING, AMERICAN COLLEGE OF SURGEONS, London, England, May 17-19, 1954. Dr. Michael L. Mason, 40 East Erie St., Chicago 11, Ill., U. S. A., Secretary.

SOUTH AMERICAN CONGRESS OF ANGIOLOGY, Sao Paulo, Brazil, July 1954. For information write: Dr. Rubens Carlos Mayall, Rua Senador Vergueiro 73, Rio de Janeiro, Brazil, S. A.

WORLD CONGRESS OF CARDIOLOGY, Washington, D. C., and Bethesda, Md., U. S. A., Sept. 12-17, 1954. Dr. L. W. Gorham, 44 East 23d St., New York 10, N. Y., U. S. A., Secretary-General.

WORLD CONGRESS OF INTERNATIONAL SOCIETY FOR THE WELFARE OF CRIPPLES, The Hague, Netherlands, Sept. 13-17, 1954. For information write: D. C. Schaap, Centrale Vereniging, Apeldoorschweg 51, Arnhem, Netherlands.

WORLD FEDERATION OF OCCUPATIONAL THERAPISTS, Edinburgh, Scotland, August 17, 1954.

WORLD MEDICAL ASSOCIATION, Rome, Italy, Sept. 26-Oct. 2, 1954. Dr. Louis H. Bauer, 345 East 46th St., New York 17, N. Y., U. S. A., Secretary-General.

EXAMINATIONS AND LICENSURE

EXAMINING BOARDS IN SPECIALTIES

AMERICAN BOARD OF ANESTHESIOLOGY: *Written.* Various Centers, July 16. Sec., Dr. Curtiss B. Hickox, 80 Seymour St., Hartford 15.

AMERICAN BOARD OF NEUROLOGICAL SURGERY: *Oral.* Chicago, May or June. Final date for filing application is Jan. 15. Sec., Dr. Leonard T. Furlow, 600 S. Kingshighway, St. Louis 10.

AMERICAN BOARD OF NEUROLOGY AND PSYCHIATRY: *Psychiatry and Neurology.* Dec. 14-15. Applications no longer being accepted. Chicago, April 29-30. Final date for filing application is Feb. 1. Sec., Dr. David A. Boyd, Jr., 102-110 Second Ave., S.W., Rochester, Minn.

AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY: Written examination and review of case histories for all candidates will be held in various cities of the United States, Canada, and military centers outside the continental United States on Feb. 5. Case abstracts are to be sent by the candidate to the Secretary as soon as possible after receiving notification of eligibility to the Part I written examination. *Oral.* Chicago, Oct. 1. Application for reexamination in Part II must be made prior to Feb. 1 of any year. Sec., Dr. Robert L. Faulkner, 2105 Adelbert Road, Cleveland 6.

AMERICAN BOARD OF OPHTHALMOLOGY: *Written.* Various Centers, January 25-26, 1954. Final date for filing applications was July 1. *Practical.* San Francisco, June 25-29; New Orleans, Feb. 5-11, 1955. Final date for filing application for 1955 written examination is July 1. Sec., Dr. Edwin B. Dunphy, 56 Ivie Road, Cape Cottage, Maine.

AMERICAN BOARD OF ORTHOPAEDIC SURGERY: *Part II.* Chicago, Jan. 20-22. Final date for filing application was August 15. Final date for filing application for Part I is Nov. 30. Sec., Dr. Harold A. Sofield, 122 S. Michigan Ave., Chicago 3.

AMERICAN BOARD OF OBSTETRICS: *Written.* Selected Places, Jan. 15. This is the only written examination which will be given during 1954. *Oral.* Washington, D. C., Feb. 19-21; Des Moines, March 19-21; New York City, May 1-3; San Francisco, June 25-27; Chicago, Oct. 8-10 and New Haven, December.

AMERICAN BOARD OF RADIOLOGY: *Oral. Radiology, Roentgenology, Diagnostic Roentgenology and Therapeutic Radiology.* Chicago, Dec. 6-11. Final date for filing application was July 1. Sec., Dr. B. R. Kirklin, 102-110 Second Ave, S.W., Rochester, Minn.

AMERICAN BOARD OF UROLOGY: *Oral-clinical and pathology.* Chicago, Feb. 17-20. Sec., Dr. Harry Culver, 30 Westwood Road, Minneapolis 16.

DEATHS

Henry, Myron Ormell ✦ Minneapolis; born in Minneapolis Dec. 28, 1893; University of Minnesota Medical School, Minneapolis, 1921; clinical assistant professor of surgery at his alma mater; specialist certified by the American Board of Orthopaedic Surgery; member of the American Orthopaedic Association, Clinical Orthopaedic Society of which he was secretary-treasurer, and the American Academy of Orthopaedic Surgeons, of which he was secretary; fellow of the American College of Surgeons; affiliated with Abbott and Northwestern hospitals; member of the visiting staffs, St. Barnabas and Asbury hospitals; consultant in orthopedic surgery, Glen Lake Sanatorium in Oak Terrace; died in Northwestern Hospital, Aug. 31, aged 60, of recurrent cerebral thrombosis and hypertensive cardiovascular disease.

Lawless, Ambrose Thomas, Syracuse, N. Y.; born in Marcellus Falls, N. Y., March 22, 1885; Syracuse University College of Medicine, 1910; clinical professor emeritus of surgery at his alma mater, now known as State University of New York College of Medicine at Syracuse; specialist certified by the American Board of Surgery; served during World War I; during World War II served on a county draft board, for which he was awarded a citation; past president of the Onondaga County Medical Society; senior attending surgeon and past president of the staff, St. Joseph's Hospital, where he died Sept. 13, aged 68, of gastric hemorrhage, cirrhosis of the liver, and uremia.

Galvin, Thomas Keough ✦ Baltimore; born in Baltimore in 1891; College of Physicians and Surgeons, Baltimore, 1915; specialist certified by the American Board of Obstetrics and Gynecology; fellow of the American College of Surgeons; clinical professor of gynecology at the University of Maryland School of Medicine and College of Physicians and Surgeons; served during World War I; affiliated with Mercy and St. Joseph's hospitals as gynecologist-in-chief; gynecologist, Hospital for the Women of Maryland; on the visiting staffs of the Union Memorial and St. Agnes' hospitals; died Sept. 19, aged 61, of coronary thrombosis.

Engman, Martin Feeney ✦ St. Louis; University of the City of New York Medical Department, 1891; professor emeritus of clinical dermatology at Washington University School of Medicine; an Associate Fellow of the American Medical Association; member of the American Dermatological Association, of which he was past president; specialist certified by the American Board of Dermatology and Syphilology; affiliated with Barnard Free Skin and Cancer Hospital, of which he was founder, St. Luke's Hospital, and Barnes Hospital; died Oct. 12, aged 85, of acute heart failure.

McPherson, Samuel Dace ✦ Durham, N. C.; born April 20, 1873; University of Maryland School of Medicine, Baltimore, 1903; past president of the Durham-Orange Counties Medical Society; for many years chairman of the county board of health; specialist certified by the American Board of Otolaryngology; fellow of the American Academy of Ophthalmology and Otolaryngology; fellow of the American College of Surgeons; founder of the McPherson Hospital; on the honorary staff of the Lincoln Hospital and the Watts Hospital, where he died Sept. 12, aged 80, of arteriosclerosis.

Wells, Fred Lloyd ✦ Des Moines, Iowa; Bellevue Hospital Medical College, New York, 1888; past president of the Association of Life Insurance Medical Directors; for many years associated with the National Travelers Casualty Company, the Interstate Assurance Company, and the Iowa State Traveling Men's Association, serving the latter two until the time of his death; from 1912 to 1936 medical director of the Equitable Life Insurance Company of Iowa; died in the Iowa Methodist Hospital Sept. 17, aged 85, of empyema of the gallbladder.

✦ Indicates Member of the American Medical Association.

Ahrens, Harvey, Des Moines, Iowa; Illinois Medical College, Chicago, 1903; died June 15, aged 77, of acute circulatory failure.

Duncan, Melvin Dewey ✦ Murfreesboro, Ark.; Kansas City (Mo.) College of Medicine and Surgery, 1926; formerly mayor; member of the board of education; affiliated with Howard County Memorial Hospital in Nashville; died Sept. 20, aged 55, of coronary thrombosis.

Dunning, Edgar Clarence, Highland Park, Mich.; Chicago Homeopathic Medical College, 1901; died Aug. 18, aged 82, of bronchopneumonia.

Early, William Leyton, Wolftown, Va.; Medical College of Virginia, Richmond, 1898; affiliated with University of Virginia Hospital, Charlottesville, where he died Sept. 25, aged 76, of lymphoblastoma.

Ewing, George Winburn ✦ Peabody, Mass.; Baltimore University School of Medicine, 1899; on the staff of the Josiah B. Thomas Hospital; served on the staff of the North Shore Baby Hospital in Salem and the Essex County Tuberculosis Sanatorium in Middleton; died Sept. 22, aged 76, of cancer.

Fedde, Gabriel Martin Nathanael ✦ Staten Island, N. Y.; Cornell University Medical College, New York, 1912; affiliated with Richmond Memorial Hospital; for many years a medical missionary to China; died Oct. 7, aged 69, of arteriosclerosis.

Flothow, Paul George ✦ Seattle; University of Pennsylvania School of Medicine, Philadelphia, 1923; member of the Pacific Coast Surgical Association and the North Pacific Surgical Association; fellow of the American College of Surgeons; certified by the National Board of Medical Examiners; served during World War I; member of the staffs of the Providence, Swedish, Doctors, Seattle General, Children's Orthopedic, Maynard, and Columbus hospitals; died Sept. 21, aged 56, of coronary disease.

Foley, Harry Thomas ✦ Pittsburgh; University of Pittsburgh School of Medicine, 1929; specialist certified by the American Board of Internal Medicine; fellow of the American College of Physicians; served during World War II; consulting cardiologist, Memorial Hospital, Monongahela; affiliated with Presbyterian and Woman's hospitals; died Sept. 20, aged 48, of coronary occlusion.

Folsom, Charles W., Conway, Miss. (licensed in Mississippi in 1906); died in Tallahassee, Fla., Aug. 4, aged 85, of uremia.

Frazier, Harold Langford ✦ Chicago; Rush Medical College, Chicago, 1901; an Associate Fellow of the American Medical Association; on the staff of the Swedish Covenant Hospital, where he died Oct. 3, aged 75, of prostatic carcinoma.

Fry, John Lewis, Kalona, Iowa; Northwestern University Medical School, Chicago, 1911; member of the school board; on the staff of the Mercy Hospital in Iowa City; died in Columbus Junction Sept. 15, aged 71, of cerebral hemorrhage and arteriosclerosis.

Fulton, Gavin ✦ Louisville, Ky.; University of Louisville (Ky.) Medical Department, 1894; served on the staffs of the Kosair Crippled Children Hospital, Children's Hospital, and Norton Memorial Infirmary, where he was past president of the staff and where he died Sept. 9, aged 80, of fracture of the hip received in a fall and cerebrovascular accident.

Gilliland, Caroline Jane ✦ Sharon, Pa.; Woman's Medical College of Pennsylvania, Philadelphia, 1906; an Affiliate Fellow of the American Medical Association; served on the staff of the Sharon General Hospital; died in Mercer (Pa.) Sanitarium Sept. 2, aged 87, of senility.

Gilmore, Lewis Daniel, Pittsfield, N. H.; Tufts College Medical School, Boston, 1913; died Aug. 21, aged 62, of coronary thrombosis.

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Hagood, John W. ✦ Evergreen, Ala.; Medical College of Alabama, Mobile, 1898; died July 15, aged 78, of cerebral hemorrhage, hypertension, and arteriosclerosis.

Hatfield, Richard Henry ✦ Brooklyn; Long Island College Hospital, Brooklyn, 1902; veteran of the Spanish-American War; affiliated with Prospect Heights Hospital for many years; died in Dumont, N. J., Sept. 21, aged 74, of coronary thrombosis.

Heilesen, William Edward, Iroquois, S. D.; University of Nebraska College of Medicine, Omaha, 1929; died in Prescott, Wis., June 13, aged 51.

Higgins, Martin Andrew, Rye, N. H.; Baltimore Medical College, 1907; died Aug. 18, aged 69, of acute coronary occlusion.

Highsmith, Luther Byrl, Flat Rock, Ill.; Loyola University School of Medicine, Chicago, 1916; died in Lawrence County Memorial Hospital in Lawrenceville, Oct. 6, aged 66, of meningioma and phlebothrombosis of the left main pulmonary artery.

Hoitt, George Barnard ✦ Manchester, N. H.; Dartmouth Medical School, Hanover, N. H., 1899; died Sept. 14, aged 83, of arteriosclerosis.

Isaacson, Barney, New York City; University and Bellevue Hospital Medical College, New York, 1921; served on the staff of the Bronx Hospital; died Aug. 28, aged 56, of cerebral hemorrhage.

James, Maurice Clayton ✦ Columbus, Neb.; Jefferson Medical College of Philadelphia, 1914; fellow of the International College of Surgeons; past president of the Platte County Medical Society; served during World War I; affiliated with St. Mary and Lutheran hospitals; died Sept. 11, aged 69, of carcinoma of the stomach.

Kenney, Stephen A. ✦ Valley Falls, R. I.; College of Physicians and Surgeons, Baltimore, 1899; an Associate Fellow of the American Medical Association; past president of the Pawtucket Medical Association; for many years health officer for the town of Cumberland; died Sept. 14, aged 77, of cerebral arteriosclerosis.

Kirk, Marion Singleton, Hagood, S. C.; Medical College of the State of South Carolina, Charleston, 1895; died Sept. 13, aged 83, of coronary thrombosis.

Klopstock, Erich, Forest Hills, N. Y.; Friedrich-Wilhelms-Universität Medizinische Fakultät, Berlin, Germany, 1922; died May 29, aged 55.

Kolb, Thomas Victor ✦ Litchfield, Ohio; Ohio State University College of Medicine, Columbus, 1934; member of the American Academy of General Practice; served during World War II; affiliated with Lodi (Ohio) Community Hospital, where he died Sept. 20, aged 49, of subarachnoid hemorrhage.

Koons, Charles Edward ✦ Creal Springs, Ill.; St. Louis University School of Medicine, 1904; died in Van Buren, Mo., Aug. 9, aged 74.

Kretlow, Fred A. ✦ Milwaukee; Marquette University School of Medicine, Milwaukee, 1924; served during World War II; on the staff of the Misericordia Hospital for many years; died in Columbus Hospital Sept. 20, aged 54, of coronary thrombosis.

Latz, Benno Ernst, New York City; Christian-Albrechts-Universität Medizinische Fakultät, Kiel, Germany, 1903; died Oct. 2, aged 75, of coronary thrombosis.

Lauder, Clark Hays ✦ Monrovia, Calif.; State University of Iowa College of Medicine, Iowa City, 1909; member of the Pacific Coast Oto-Ophthalmological Society; died Sept. 29, aged 69, of coronary thrombosis.

Lawson, Sidney B. ✦ Logan, W. Va.; Baltimore Medical College, 1894; for many years member of the Logan County Court; at one time mayor of Williamson; co-founder of the Hatfield-Lawson Hospital; past president and for many years director of the old First National Bank of Logan; died in Delray Beach, Fla., Oct. 9, aged 86, of asthma and heart disease.

Lazarus, George Fred, Mattituck, N. Y.; Hahnemann Medical College and Hospital of Philadelphia, 1894; on the staffs of the Carson Peck Memorial and Prospect Heights hospitals in Brooklyn; died Oct. 4, aged 84, of a heart attack.

Lewis, Andrew Llewellyn ✦ Sumner, Mo.; Marion-Sims College of Medicine, St. Louis, 1898; an Associate Fellow of the American Medical Association; died in Brookfield Aug. 25, aged 86, of uremia, following fracture of right hip.

Lindsay, Harry Clubb Lodge ✦ Pasadena, Calif.; Western University Faculty of Medicine, London, Ontario, Canada, 1909; member of the American Academy of Dermatology and Syphilology; affiliated with St. Luke and Huntington Memorial hospitals; died Sept. 9, aged 70, of arteriosclerosis.

McClure, William Charles ✦ Oklahoma City, Okla.; University of Oklahoma School of Medicine, 1936; assistant professor of medicine at his alma mater; during World War II served with the marines in the Pacific, earning the Bronze Star for bravery under enemy fire and was awarded the Purple Heart; affiliated with St. Anthony Hospital; died in Panhandle, Texas, Sept. 24, aged 44, of injuries received in an automobile accident.

McDevitt, Bernard J. ✦ Mount Carmel, Pa.; Temple University School of Medicine, Philadelphia, 1910; past president of the Northumberland County Medical Society; died Sept. 16, aged 84, of arteriosclerosis.

McDowell, James Fredrick ✦ Birmingham, Ala.; University of Pennsylvania School of Medicine, Philadelphia, 1934; specialist certified by the American Board of Obstetrics and Gynecology; fellow of the American College of Surgeons; served during World War II; assistant professor of obstetrics at the Medical College of Alabama; affiliated with Jefferson-Hillman Hospital, where he died Oct. 4, aged 43, of acute myocardial infarction and coronary sclerosis.

McManus, James William ✦ Brooklyn; Columbia University College of Physicians and Surgeons, New York, 1927; past president of the Brooklyn Urological Society; served during World War II; affiliated with Coney Island, St. Catherine's, and Caledonian hospitals and the Midwood Hospital, where he died Sept. 23, aged 51, of coronary thrombosis.

MacVeany, Arthur Patchen ✦ Miami, Fla.; Columbia University College of Physicians and Surgeons, New York, 1927; certified by the National Board of Medical Examiners; died Sept. 22, aged 57, of acute myocardial infarction and arteriosclerosis.

Magargee, George W., Medina, Ohio; Western Reserve University Medical Department, Cleveland, 1904; died Sept. 30, aged 76.

Marcus, Daniel B. ✦ Detroit; Wayne University College of Medicine, Detroit, 1932; affiliated with the Grace Hospital, where he died Sept. 26, aged 45, of uremia.

Markel, James Clyde ✦ Pittsburgh; University of Pennsylvania Department of Medicine, Philadelphia, 1904; specialist certified by the American Board of Ophthalmology; member of the American Academy of Ophthalmology and Otolaryngology; fellow of the American College of Surgeons; affiliated with Southside and Eye and Ear hospitals; died Oct. 1, aged 75, of cancer of the colon.

Mercer, William F., Richmond, Va.; Medical College of Virginia, Richmond, 1882; formerly on the faculty of his alma mater; past president of the Richmond Academy of Medicine; died Sept. 4, aged 91.

Miller, John Hume, Philadelphia; Jefferson Medical College of Philadelphia, 1903; died in Charleston, S. C., Sept. 16, aged 76.

Moore, Joseph G. ✦ Birmingham, Ala.; Birmingham Medical College, 1911; died July 20, aged 65, of acute coronary thrombosis.

Murphy, Frank Augustine ✦ Taunton, Mass.; Tufts College Medical School, Boston, 1902; served during World War I; for many years school physician of Taunton; died Aug. 24, aged 76.

Murrell, Charles Milton ✦ Sherrard, Ill.; Hospital College of Medicine, Louisville, Ky., 1903; served during World War I; affiliated with St. Anthony's Hospital in Rock Island, Mercer County Hospital in Aledo, and Moline Public Hospital in Moline, where he died Sept. 28, aged 76, of congestive heart failure.

Nash, William Harmon ✦ Shelbyville, Ky.; University of Louisville Medical Department, 1912; served in France during World War I; on the staff of the King's Daughters' Home for Incurables; for many years affiliated with Old Masons Home; died Sept. 14, aged 65, of coronary occlusion and tuberculosis of the left ankle.

Nichols, David C., Stamps, Ark.; Gate City Medical College, Dallas, Texas, 1904; served as mayor; died Sept. 8, aged 88, of heart failure.

Norman, J. Standing, Gastonia, N. C.; University of Maryland School of Medicine, Baltimore, 1909; affiliated with Gaston Memorial and Gaston County Negro hospitals; died Oct. 6, aged 76, of carcinomatosis.

O'Dell, Lester Ely ✦ Chicago; the Hahnemann Medical College and Hospital, Chicago, 1906; died in the Presbyterian Hospital Oct. 13, aged 72, of myocardial infarction and coronary heart disease.

Orr, William Law, Matthews, N. C.; North Carolina Medical College, Charlotte, 1914; died in the Presbyterian Hospital, Charlotte, Aug. 9, aged 63, of arteriosclerotic cardiovascular disease.

Ortman, John Wessel, St. Paul; Creighton University School of Medicine, Omaha, 1924; died in the Ancker Hospital Aug. 9, aged 57, of cerebral hemorrhage and hypertension.

Papay, Thomas A., Altoona, Pa.; Georgetown University School of Medicine, Washington, D. C., 1952; interned at Altoona Hospital; killed July 30, aged 32, when his car plunged over an embankment near Altoona.

Parker, Merrill Olmsted ✦ Auburn, N. Y.; Syracuse University College of Medicine, 1919; specialist certified by the American Board of Psychiatry and Neurology; member of the American Psychiatric Association; served during World Wars I and II; formerly on the staff of the St. Lawrence State Hospital in Ogdensburg; on the consulting staff of the Willard (N. Y.) State Hospital; affiliated with the Mercy Hospital and the Auburn Memorial Hospital, where he died Sept. 10, aged 64, of coronary disease.

Pavlo, Samuel George ✦ Malden, Mass.; Tufts College Medical School, Boston, 1911; member of the New England Obstetrical and Gynecological Society; affiliated with the Melrose (Mass.) Hospital, where he was president of the staff; died Sept. 26, aged 70.

Pearce, Charles Tabb ✦ Cincinnati; University of the City of New York Medical Department, 1892; served on the staffs of the Cincinnati General and Good Samaritan hospitals; died Oct. 31, aged 82, of perforated duodenal ulcer.

Penrose, Thomas William, Philadelphia; Jefferson Medical College of Philadelphia, 1906; affiliated with the Veterans Administration; died in the U. S. Naval Hospital Sept. 9, aged 73, of carcinoma of the pancreas.

Peters, Charles Edward ✦ Hayward, Calif.; Starling-Ohio Medical College, Columbus, 1912; member of the Radiological Society of North America; affiliated with the Hayward Hospital; died Aug. 1, aged 64, of coronary occlusion.

Phillips, Alexander Harold ✦ Chicago; University of Illinois College of Medicine, Chicago, 1914; member of the staff of the Walther Memorial Hospital, where he died Oct. 7, aged 70.

Phillips, Claude Belford ✦ Collingswood, N. J.; Hahnemann Medical College and Hospital of Philadelphia, 1922; died in Our Lady of Lourdes Hospital in Camden, Sept. 1, aged 62, of cerebral hemorrhage.

Powers, Emory Byron, Vaucluse, Va.; University of the South Medical Department, Sewanee, Tenn., 1904; for many years practiced in Winchester, where he served on the staff of Winchester Memorial Hospital; died Sept. 25, aged 74, of cerebral hemorrhage.

Ray, George Lewis ✦ Portland, Ore.; University of Louisville (Ky.) School of Medicine, 1940; served during World War II; was shot and killed Sept. 25, aged 39.

Reese, Leroy Joseph ✦ Bolivar, Pa.; University of Pennsylvania School of Medicine, Philadelphia, 1910; died Sept. 9, aged 66, of coronary occlusion.

Robertson, Edd Lafayette, Fort Lauderdale, Fla.; University of Nashville (Tenn.) Medical Department, 1899; died in the Veterans Administration Hospital in Coral Gables, Aug. 31, aged 78, of ruptured abdominal aortic aneurysm with hemorrhage.

Rochford, Richard Augustine, Springfield, Mass.; Harvard Medical School, Boston, 1914; fellow of the American College of Surgeons; served overseas during World War I; for many years a member of the board of health; later police commissioner; consultant at Westfield (Mass.) State Sanatorium; for many years affiliated with Mercy Hospital, where he was president of the staff and where he died Sept. 10, aged 64, of uremia and glomerulonephritis.

Rodenbeck, Frank ✦ Arcadia, Ind.; Medical College of Indiana, Indianapolis, 1904; died Sept. 17, aged 71, of dissecting aneurysm of the aorta.

Ross, Clarence Wesley ✦ Captain, U. S. Navy, retired, San Diego, Calif.; University of Oregon Medical School, Portland, 1912; specialist certified by the American Board of Internal Medicine; fellow of the American College of Physicians; entered the U. S. Navy June 26, 1915; retired Feb. 1, 1948; died Oct. 2, aged 67.

Rudd, James Colegate ✦ Memphis, Tenn.; University of Tennessee College of Medicine, Memphis, 1931; specialist certified by the American Board of Radiology; served overseas during World War II; affiliated with the Veterans Administration Hospital, where he died Sept. 18, aged 46, of melanoma.

Salyer, Kelson N., Hazard, Ky.; Loyola University School of Medicine, Chicago, 1919; also a lawyer; served during World War I; at one time representative in the state legislature and county judge; one of the organizers of the Citizens State Bank and in recent years served as its president and chairman of the board; died Sept. 9, aged 63, of a cerebral accident.

Sevier, Ernest ✦ Sacramento, Calif.; University of California Medical School, San Francisco, 1927; affiliated with Sutter and Mercy hospitals; died Sept. 5, aged 58, of coronary thrombosis.

Shaw, Harry William, New Lexington, Ohio; Starling Medical College, Columbus, 1898; served during World War I; on the staffs of the Bethesda and Good Samaritan hospitals in Zanesville; died Sept. 15, aged 79, of coronary occlusion.

Sidell, Samuel ✦ Boston; Tufts College Medical School, Boston, 1926; member of the New England Obstetrical and Gynecological Society; chief of the obstetrics department, Allerton Hospital, and senior obstetrician, Booth Memorial Hospital in Brookline, Mass.; on the associate staff, Beth Israel Hospital, Boston; died in New York City Sept. 12, aged 51, of coronary thrombosis.

Sloan, Charles Elmer, North Little Rock, Ark.; Kansas City College of Medicine and Surgery, Kansas City, Mo., 1917; died Sept. 17, aged 74, of pulmonary occlusion and myocardial infarction.

Smith, Loran Eugene, Danville, Calif.; University of Illinois College of Medicine, Chicago, 1950; interned at Santa Clara County Hospital in San Jose, where he served a residency; killed Aug. 23, aged 33, in an automobile accident.

Stansberry, Charles Lee ✦ Oneonta, Ala.; Medical Department of Grant University, Chattanooga, Tenn., 1899; died in Blount Memorial Hospital in Maryville, Sept. 18, aged 85, of pneumonia.

Stout, Gurn Thompson ✦ Los Angeles; University of Nebraska College of Medicine, Omaha, 1926; drowned off Boat Canyon in Laguna Beach Sept. 13, aged 54, while diving.

FOREIGN LETTERS

BELGIUM

Professor Réné Sand.—Dr. Réné Sand died recently. He originally worked in the field of pathological anatomy and later became interested in the study of industrial accidents, and then in occupational medicine and pathology. After World War I he became secretary of the International League of Red Cross Societies, and professor of social medicine at the University of Brussels. He was the author of "Toward Social Medicine," and was founder and first president of the Belgian Society of International Medical Law.

Allergy.—At a meeting of the Belgian Society of Gastroenterology in May Mr. Froehlich emphasized the difficulties in the diagnosis of digestive allergies. The lesions range from simple edema to the acute necrosis associated with the Arthus phenomenon, and are characterized by changes in the capillary endothelium, venous thromboses, and pericapillary hemorrhages. The affected region is infiltrated by neutrophils and eosinophils. Monocytes, histiocytes, and plasmocytes are also found. Although these lesions may evolve toward granulomas with a tuberculoid or rheumatoid structure, they are not pathognomonic of allergy but only constitute a basis for assuming the allergic nature of the process. The phenomena of Reilly and the general adaptation phenomenon of Selye can bring about similar alterations. Other criteria of digestive allergies are contractions of the blood vessels, secretion of mucus, and favorable response to antihistaminics and oxygenated steroids. The most certain criterion is the isolation of a specific antibody, which is easy to detect if it exists in an appreciable quantity in the serum. The use of precipitins and of cutaneous or intradermal reactions may provide interesting responses, but in patients with digestive allergies the nature of the antigen usually remains unknown, because the sensitivity may be solely histological. Anaphylactic shock is then delayed, and these methods are of little or no help. These patients must be subjected to repeated examinations. Furthermore, the radiological and endoscopic alterations are not characteristic of the causal process. Why some patients have allergic symptoms when most persons under the same conditions do not is a major problem. The psychic state of the patient certainly plays a preponderant part. Gutmann's idea that as the result of certain modifications the organ becomes the organ of shock must be kept in mind. Needle biopsy of the liver, if better studied and especially if more precise, could help to demonstrate edema. The therapy is not specific; antihistaminics and corticotropin have been used with some success, and elimination regimens have their ardent defenders. We were used to the idea of transience in allergies, but—and this has been recently discovered—there is a slowly evolving type of allergy that causes permanent histological changes. This process may play a part in the pathogenesis of ulcers, regional ileitis, and ulcerative colitis.

Treatment Center for Poliomyelitis.—The treatment facilities dealing with poliomyelitis should be equipped to treat patients in the acute stage, the convalescent stage, and the orthopedic or definitive surgical stage. This requires years of treatment. For this reason a treatment center where a patient with poliomyelitis can be treated from the very first day of his illness until the definite healing has occurred has been set up at the College of Medicine in Gant.

Streptomycin and Tuberculous Meningitis.—At the 14th Congress of Pediatricians of the French Language, in May, 1953, Dr. Nameche of Brusssels presented a report based on the first two years' results of Belgian experience with streptomycin in the treatment of tuberculous meningitis. He reached the following conclusions: 1. The coexistence of a state of granulation has no influence on the general prognosis of tuberculous meningitis. 2. The unfavorable effect of a late diagnosis is evident in the mortality rate in the first month. 3. The mortality curve for tuberculous meningitis according to the age of the patients is parallel to the same curve for all forms of tuberculosis (this mortality is very high for infants and at puberty). 4. Strict and prolonged adherence to the therapeutic regimen has reduced the general mortality and has decreased the number of relapses. 5. These rigorous treatments have two drawbacks: long duration and risk of deafness. 6. Although treatments with streptomycin given simultaneously by intramuscular and intraspinal injections seem to necessitate strict and prolonged administration during the first three months, it is likely that these treatments when combined with other antituberculous agents can be made less rigorous during the later months without increasing the risks to the patients. The Belgian experience, however, is not yet sufficient to determine the efficacy of the addition of isoniazid to streptomycin in the treatment of this disease.

Medical Examination of Students.—A royal decree has recently been issued making medical examination for the exclusion of contagious diseases compulsory prior to registration in state universities as well as in the school and institutes connected with them, at the state school of veterinary medicine, and in the state agricultural institutes. Students whose registration has been refused on medical grounds may demand a second examination when there is reason to believe that they are free of contagious disease.

CHILE

Acute Abdominal Conditions.—In the April number of the quarterly of Viña del Mar Hospital, there was an article on acute abdominal conditions seen in the emergency service of that hospital during 1951. Among 15,900 patients observed at the emergency station, 2,910 (18%) had acute abdominal conditions. These included 947 patients with biliary colic, 461 with gastroenteritis, 394 with acute gastritis, 243 with acute appendicitis, 218 with chronic cholecystitis, 135 with colitis and enterocolitis, 91 with adnexitis and salpingitis, 49 with renal colic, 43 with gastroduodenal ulcers, 32 with acute cholecystitis, 28 with ectopic pregnancy, 22 with hernias, and 13 with pancreatitis. The rest included entities such as hepatitis, tuberculous peritonitis, pelviperitonitis, and gastric carcinoma. The authors outlined the manner in which these patients must be examined. The history of these patients at times is difficult to obtain, because they are in a state of shock or have pain, and must be orientated toward three main symptoms, pain, vomiting, and constipation or diarrhea. Regarding pain, its radiation, intensity, type, evolution, point of origin, and coexistence with other signs or symptoms are important. Continuous pain may be acute or chronic. Acute pain, if followed by shock, suggests rupture, perforation, or torsion. In the absence of shock, it may accompany appendicitis, acute cholecystitis, pyelitis, and adnexitis. Continuous or intermittent chronic pain suggests peptic ulcer or chronic cholecystitis. Colicky pain is usually due to mechanical obstruction of the gastrointestinal tract, but may be reflex in patients with tumors or mesenteric cysts. A third type of pain is that associated with tabes dorsalis, syphylitic meningomyelitis, and tuberculous pachymeningitis.

Vomiting is one of the commonest signs in patients with acute abdominal conditions. It is most intense in patients with intestinal obstruction, especially if there is strangulation of the small intestine. It appears early in patients with appendicitis and is rather persistent in patients with pancreatitis. It is less frequent than thought in patients with cholecystitis. The laboratory and x-ray department are of great help in arriving at a correct diagnosis.

The items in these letters are contributed by regular correspondents in the various foreign countries.

Bulletin of Chilean Society of Cardiology.—The board of directors of the Chilean Society of Cardiology decided on April 25 to publish a bulletin that will be the official organ of the society and will appear three times a year. The first issue appeared recently and contained an article on normal and abnormal ballistocardiograms by Prof. Rojas Villegas and others. The authors concluded that Dock's photoelectric method produces satisfactory tracings with a constancy that permits the comparison of successive tracings. The size of the recorded waves vary greatly in normal persons but their amplitudes decreases in those of persons over 40 years of age. The normal tracings present morphological alterations of the waves in a very low percentage. Finding these alterations in more than 20% of the tracings indicates an abnormal condition. The tracings of 174 patients (44 with valvulopathies, 40 with arteriosclerosis, 40 with angina pectoris, 30 with myocardial infarction, and 20 with hypertension) were studied. They were compared with those of 100 normal persons. In order to evaluate the tracings objectively, the authors proposed a point system giving to the various patterns a definite number of points. Although this system is arbitrary, it gave them a scale with which to compare various tracings. Most of those from subjects considered normal had less than 50 points, whereas those from the abnormal subjects had more than 50 points on this scale. The tracings of the patients with valvulopathies, however, fell within the normal range, but no significant difference was observed between the scale ratings of ballistocardiograms from patients with arteriosclerosis, angina pectoris, and hypertension. Those of patients with myocardial infarction were significantly different from those of patients with hypertension and arteriosclerosis but not from those of patients with angina pectoris. The authors concluded that the ballistocardiograph lacks specificity and at present is not of great value in the diagnosis of coronary insufficiency.

An electrocardiographic study of 30 normal pregnant women was reported by Dr. A. Illanes and co-workers. Of these, 24 showed electrocardiographic changes of the P-waves, Q-waves, and T-waves, the electrical position of the heart, the direction of the electrical axis, and the ventricular gradient in the course of pregnancy. The auricular complex showed changes in the last three months of pregnancy, becoming negative in 13 and diphasic in 6. Markedly negative Q_3-waves, which had no pathological meaning and which were due to changes in the electrical potential of the heart were observed in six patients. The T-waves became negative in 14 because of changes in the electrical position of the heart. In the precordial leads the T-waves became negative in V_1 in 22 patients and in a smaller proportion in the other leads (V_2 in 4, V_3 in 1, and V_4 in 1). In 14 patients, the heart rotated counterclockwise on its anteroposterior axis in the course of the pregnancy. The ventricular gradient moved to the left an average of 7 degrees (range 3 degrees to 22 degrees).

Acute Hepatitis in Children.—In the May issue of the *Revista Chilena de Pediatria*, Dr. H. Niemeyer and others, reported 65 cases of acute hepatitis in children ranging in age from six months to 11 years, with 60% of the children under 4 years of age. Slightly less than half of the children had a history of contact with patients suffering from viral hepatitis or of blood transfusions made during a maximal incubation period. A preicteric period of about three days and characterized by anorexia, lassitude, fever, mucous discharges from the respiratory tract, or gastrointestinal disorders, was observed in 61 patients. The first symptom of the icteric stage may be bile-stained urine, acholic stools, or jaundice of the skin or mucosa. In 36, the jaundice was of medium intensity, but in 22 it was intense. General symptoms may disappear rapidly in this stage of the disease. Hepatomegaly was present in all the patients, but splenomegaly was present in only 13. In the posticteric stage, hepatomegaly persisted and resolved very slowly. In a group of 20 of these patients, the average total serum bilirubin was between 20 and 55 mg. per 100 cc. Cephalin-cholesterol flocculation, colloidal gold, scarlet red, and thymol turbidity tests were consistently abnormal in most of the patients with a gradual improvement leading to normality in from 20 to 180 days. The positive flocculation tests and hepatomegaly were the last abnormal findings to disappear.

Patent Urachus.—In the *Revista Chilena de Pediatria* for May, Dr. Ines Ulloa Acuna reported on four patients (three girls and one boy) with patent urachus. Two of the girls also had vesicoumbilical fistulas and were operated on during their second month of life. Both made uneventful recoveries. The other two patients had suppurating cysts of the urachus and were seen during their second year of life 15 days after the onset of the acute symptoms. In both patients, the cysts were evacuated, and, after the infection was controlled with antibiotics, they were removed and healing was prompt.

DENMARK

Falling Tuberculosis Death Rate.—On Sept. 5, at the annual meeting of the Danish National Association Against Tuberculosis, Dr. J. Gravesen presented some remarkable figures dealing with tuberculosis. Between 1948 and 1952 the tuberculosis death rate has been more than halved, with 1,034 deaths from all forms of tuberculosis, or 25 per 100,000 persons, in 1948, as compared with 471 such deaths, or 11 per 100,000, in 1952. Each of the years between 1948 and 1952 showed a steady fall of the tuberculosis death rate. Thirty years ago tuberculous meningitis was responsible for about 13 deaths per 100,000 every year, whereas in 1952 this figure was reduced to 0.3. In 1935 deaths from tuberculosis among children from birth to 14 years old numbered 235, or 25 per 100,000. In 1948 there were only 68 such deaths, or 6 per 100,000. In 1952 the deaths at this age numbered only 10, or 0.9 per 100,000. In the same year in Copenhagen alone there were no deaths from tuberculosis among patients under the age of 14. In 1935 there were 29 tuberculosis deaths per 100,000 children in Copenhagen, and in 1948 this ratio was reduced to 8 per 100,000. The tuberculosis morbidity rate presents a very different picture. The figures for 1952 are not yet available, but those for 1951 show that in this year alone 2,412 new cases of pulmonary tuberculosis were reported, a rate of 56 per 100,000 persons. The corresponding rate in 1950 was 59 per 100,000. The records of the Danish Public Health Service show that there are still about 15,700 persons suffering from pulmonary tuberculosis in the country, and, if the other forms of tuberculosis are taken into account, the total of still-living tuberculosis patients can be brought up to more than 16,500. These figures and their counterparts in the other Scandinavian countries show that though persons have almost ceased to die of tuberculosis, they continue to suffer badly from it.

Penicillin Prophylaxis of Streptococcic Infections.—In the wing of the Refsnaes Coast Hospital for children not suffering from tuberculosis, Dr. Sven Helbo has undertaken a comparative study of the efficacy of penicillin given by mouth as a preventive of streptococcic infections. He divided the children into two equal groups based on odd and even admission numbers. Between January and May, 1951, each child in one group was given daily two tablets containing 100,000 units of penicillin. The children in the control group were given placebos, and neither the children nor the staff of the hospital knew which tablets were which. The 70 children in each group were kept under close supervision with the routine taking of throat swabs, the erythrocyte sedimentation rate, and the antistreptolysin titer. At the outset 9 children receiving penicillin tablets and 10 children receiving the placebos had streptococci in the throat. All the fortnightly swabs taken from the penicillin-treated group yielded negative cultures, whereas 21 of the controls yielded positive results. There were two cases of tonsillitis and one of otitis media among the controls and no such streptococcic infections in the penicillin-treated group.

A new series of tests was carried out late in 1951 and early in 1952 on 98 children who were given penicillin by mouth and 108 controls who received placebos. At the outset 18 of the penicillin-treated group and 24 of the controls had streptococci in the throat. The swabs taken fortnightly showed no infection of the penicillin-treated group and 39 carriers in the control group. In this group there were 20 definite cases

of streptococcic infection as indicated by clinical findings, positive swabs, and a secondary rise of the antistreptolysin titer. There were no such cases in the penicillin-treated group, whose members spent a total of 6,542 days in the hospital without streptococcic infection, whereas the members of the control group spent 7,173 days in the hospital with 111 days representing streptococcic infections. Other infections, represented by rhinopharyngitis and chickenpox, also behaved differently in the two groups, with the control showing twice as great a morbidity as the penicillin-treated group.

Discussing these findings, Helbo concluded that prophylactic treatment with penicillin is effective both with regard to the carrier state and actual disease due to streptococci. The risk of producing penicillin-resistant strains of streptococci seems to be small, and in none of his patients did he observe reactions indicative of penicillin allergy. He admitted that such prolonged penicillin treatment is likely to induce a black deposit on the teeth, and that a natural immunity to streptococcic infections in the hospital may not develop in the children thus treated.

The Ideal Medical Partnership.—Dr. J. Riising, who has grown old in helping his colleagues settle partnership quarrels, has recently told the readers of *Ugeskrift for Laeger*, the organ of the Danish Medical Association, what he thinks is the ideal medical partnership and what can best be done to avoid the tragedies of partnerships dissolved in mutual bitterness. Since human nature is much the same the world over. Riising's experiences also may be helpful to physicians who are not Danes. In the first place the ages of two partners may determine success or failure, and the ideal would be a gap of about 20 years between them. If partners are of the same age, they may have the same set of friends and the one may find it hard to remain on duty while the other dines with friends who have invited both of them. Besides, when the wives and children are of the same age, gossiping and quarreling are apt to be comparatively common among them, whereas an elderly partner and his wife can adopt a parental attitude to the family of the younger partner. The elderly doctor must begin to look for a partner before his own practice begins to wane. Statistics compiled by Danish health insurance societies show that a practice seldom increases after the doctor has passed 50. This happens because of the deaths and changes of address of his patients, not because they have deserted him. Riising has found that there is no standard contract suitable for all. Each contract must reflect the special requirements of the two parties, but it is a good general rule to provide in a contract for a year's trial of the ability of the two to work well together. Every contract should also include a dissolution paragraph defining exactly the conditions under which two doctors shall part. Such a paragraph may have a usefully inhibitive effect on an irritated partner who, on reading it, is reminded how costly it will be for him to take the first step. In Riising's opinion, such a dissolution paragraph should carry a greater penalty for the man who wants to break away. As a rule, this paragraph should assure the departure of one of the partners from the area in which they have practiced, for much trouble will arise from further proximity of ex-partners. The paragraph may be so worded that the partner who takes the initiative in dissolving a partnership must also leave the neighborhood, or it may be the younger partner who must do so. In any case, whether a partnership is successful or disastrous, Riising agrees with Ibsen in giving woman the credit for either.

MEXICO

Anatomic and Radiological Studies of Thoracic Lymphatics.—In recent years, Dr. Alejandro Celis of Mexico City and his collaborators have studied the lymphatics of the thorax in cadavers of normal subjects and of those with pulmonary disease. Some of the findings in 50 human cadavers were described in the *Acta radiologica* (**38:**461-470 [Dec.] 1952). They removed the ninth rib from one group of bodies. The aorta was then dissected and pulled forward, by which approach they were able to identify the thoracic duct in most cases. In others they injected a dye and followed the dissection upwards into the neck as far as the termination of the duct. In another group the thoracic duct was injected with dye and carefully dissected from the diaphragm to the upper part of the thorax, and its course, relations, ramifications, and branches studied. In most cases they found a single trunk of variable diameter, tortuous and constricted at intervals, ascending through the posterior mediastinum behind the esophagus between the aorta and azygos veins. In two cases they observed that the thoracic duct divided into two vessels of about the same size, which reunited at about the level of the fourth thoracic vertebra. In three they found several trunks opening into the thoracic duct at the level of the aortic hiatus of the diaphragm. In two cases they encountered a branch communicating with a plexus of lymphatics around the aorta at about the level of the seventh and of the eighth thoracic vertebras respectively. In two cases a branch was found connected with a small plexus of lymphatic capillaries that surrounded both the aorta and the esophagus, and in the last two cases they were able to identify several branches that were traced back to a group of lymph nodes at the level of the pulmonary hilus. In some of these cadavers the injected dye filled certain branches and stained several lymph nodes. In another group the left subclavian, left internal jugular, and left innominate veins were tied, and, after removal of the eighth rib, a left thoracotomy was performed. The thoracic duct was dissected for 10 cm. just above the aortic hiatus of the diaphragm and a needle connected to a catheter introduced into the duct. The opening into the thoracic cavity was then sutured and the body taken to the roentgen department, where a radiopaque substance was injected under fluoroscopic observation and films obtained.

National Campaign Against Typhus.—The morbidity rate from epidemic typhus in Mexico has oscillated between 4.8 and 14.4 per 100,000 in the years from 1939 to 1951. Dr. Carlos Ortiz-Mariotte, chief of the National Campaign Against Typhus, reported in the March, 1953, issue of the *Boletin de la Oficina sanitaria panamericana* (**34:**236-244, 1953) that, although Mexico's Public Health Service applied chlorophenothane (DDT) powder to infested persons and contacts as a typhus control measure as early as 1944, insufficient and deficient coverage allowed outbreaks to continue throughout the country. In 1951, therefore, a nation-wide campaign was initiated to eradicate the typhus vector, the body louse.

Chlorophenothane powder was used alternately with other insecticide powders with a residual effect to prevent development of resistant strains of the vector. Experiments showed that laundry soap containing 5% chlorophenothane is very effective in killing the typhus vector and that soap containing 3.5% is adequate. Soap containing 2% chlorophenothane is now being studied. It was also found that after one year the impregnated soap retains over 75% of its insecticidal potency. Efforts are being made to interest large soap manufacturers in producing and marketing this type of soap, to be sold at cost. For head delousing, petroleum jelly (Vaseline) containing 2% chlorophenothane, which is more acceptable than kerosene, chlorophenothane powder, or shaving the scalp, was produced.

The selection of communities for louse surveys is based on social, economic, and epidemiological factors known to be compatible with a high incidence of lice. Mass treatment is administered in communities that show an index higher than 30%; selective treatment by blocks is applied in those having an index of from 10 to 30%, and selective treatment by families is used in communities with an index lower than 10%. All clothing and other articles that come into contact with the body are treated with chlorophenothane powder.

The original infestation rate was 3.1 times the rate after treatment of clothes with chlorophenothane powder and 4.5 times that after use of chlorophenothane soap. The petroleum jelly preparation is not only 100% effective for hair delousing but its residual effect kills the larvae. While treatments are being administered, the population is instructed on the objectives of the campaign, the effect of chlorophenothane powder, the cooperation that is expected from each family, and how to obtain and use the insecticides.

CORRESPONDENCE

CHRISTIAN MEDICAL COUNCIL FOR OVERSEAS WORK

To the Editor:—Readers of THE JOURNAL, who follow the progress of international relations and medical programs of an international nature, may be interested to know about the Christian Medical Council for Overseas Work and its varied activities. This council, which was created in 1938, is the central medical organization that serves primarily the interests of 50 Protestant church foreign mission boards that maintain organized medical work abroad—about 800 hospitals, 15 tuberculosis sanatoriums, 150 schools of nursing, and approximately 2,000 independent dispensaries, as well as 4 medical colleges and a union medical training institute in the Congo. These societies partially support this office as a center of information and advice for their far-flung medical enterprise.

The council's activities include the recruiting of personnel—general physicians and surgeons, specialists, dentists, nurses, hospital administrators, technicians, medical social workers, and health educators; the counseling of candidates in these fields regarding preparation for service overseas; formulating programs of graduate study and clinical experience for a rapidly increasing number of persons coming to the United States; arranging itineraries and short-term service appointments abroad for specialists from the states; receiving gifts of supplies, equipment, books, and journals for overseas use; and instructing nonmedical missionaries in the principles of hygiene, community health measures, and simple medical services. The four medical schools, one each in Seoul, Vellore, Miraj, and Ludhiana, one union medical training institute in the Congo, and a projected medical college in the Philippines are all important concerns of the council, particularly with respect to staff. If there are any who are interested in helping this organization carry out its functions more effectively or who wish to participate personally in the work of one of the overseas institutions, I shall be glad to hear from them.

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ANEURYSM OF CHOLECYSTIC ARTERY

To the Editor:—A recent article on the management of gastrointestinal hemorrhage of undetermined origin (Bockus, H. L., and others: *J. A. M. A.* **152:**1228 [July 25] 1953) reminds me of what I believe to be a unique case. The patient died in 1939, and I performed the autopsy. A woman in her late forties was admitted to a general hospital. She had been under treatment for syphilis by her private physician for several months. About one month before admission to the hospital, she passed a large, but unknown, amount of bright red blood by rectum. Hospitalization was urged by her physician but refused. Hemorrhage occurred again two or three times. The woman became very weak and finally consented to go to the hospital. On admission she was very weak and pale and had an erythrocyte count of less than 2 million, with a correspondingly low hemoglobin level. The blood pressure was quite low. Sigmoidoscopy and a thorough roentgenologic survey of the gastrointestinal tract were uninformative. Physical examination revealed nothing but hypotension.

During the first week in the hospital, there was no frank bleeding. At the end of the first week, a transfusion of 500 cc. of whole blood was administered. Within two hours after the transfusion, there was a severe hemorrhage by rectum, and after the hemorrhage the red blood cell count and blood pressure fell below what they had been on admission. The transfusion was repeated three or four times during the next few weeks. Each time severe hemorrhage followed the transfusion within two hours. Death followed a few hours after the last transfusion.

Autopsy was performed about two hours after death. On opening the body, it was seen that the intestinal tract contained a large amount of fresh red blood from pylorus to rectum. The liver was removed and laid aside for later attention. The gastrointestinal tract was removed intact from upper esophagus to rectum, was carefully opened and rinsed, and was minutely inspected throughout. No fecal material was identifiable; it probably had been washed out by the hemorrhage. Absolutely no source of bleeding could be found in the intestinal tract. No evidence of blood was found above the pylorus. I then glanced at the liver and saw a large drop of blood hanging from the end of the common duct. Careful dissection along the common and cystic ducts led to the discovery of a saccular aneurysm of the cholecystic artery, about 8 mm. in size. This had ruptured into the cystic duct just below the gallbladder. This was obviously the source of the hemorrhage. It seems reasonable to believe that, as the blood pressure was reduced by hemorrhage, the arterioductal fistula was closed by thrombosis and remained closed until the blood pressure was again raised by transfusion. This phenomenon was repeated until—apparently—the blood was unable to clot, and the fatal hemorrhage ensued.

In the light of the article by Bockus and his associates, it now seems that this woman's life might have been saved. By gently milking the duodenum downward from the pylorus, the level of the hemorrhage could probably have been located at the region of the ampulla of Vater. I have no doubt that on opening the duodenum at this level, very active hemorrhage from the common duct would have been seen if a transfusion had been given just before the abdomen was opened. Careful dissection along the duct would then have revealed the aneurysm (during life it might have been palpated), and the source of hemorrhage could have been removed. Further transfusion would then have been effective.

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RECTAL PAIN

To the Editor:—We should like to call attention to a cause of rectal pain that, to the best of our knowledge, has not been mentioned in the literature. This infrequent but definite clinical entity is hemorrhage into a hypertrophied anal papilla. A normal anal papilla becomes hypertrophied because of infection and trauma. Infection may extend from adjacent crypts of Morgagni, either associated with or independent of a true proctitis. Infection of the wounds after anorectal surgery commonly produces marked and rapid swelling and hypertrophy of a papilla that was so small that it was overlooked at the time of surgery. We always excise or destroy all anal papillae found at anorectal operations with a cautery. Trauma occurs at stool when the papillae, which normally project upward, are either everted or dragged down with a hemorrhoid; thus, trauma to an already inflamed and hypertrophied papilla can easily produce a hemorrhage into the papilla with a typical chain of events.

There is usually a history of sudden onset of a severe pain "up in the rectum" that appeared soon after defecation. There may or may not be protrusion or blood from associated hemorrhoids or fissure. The pain is a severe ache-like pressure and bearing down feeling in the rectum proper; it in no way resembles the burning discomfort of a fissure. Little or no relief is obtained from heat or analgesic ointments applied locally. Relief usually requires opiates or surgical intervention. Diagnosis is easy and can usually be made on examination by insertion of a finger. The enlarged papilla can be felt as a smooth, tense, exquisitely tender swelling. Confirmation is made after insertion of a beveled anoscope when the papilla

can be seen arising from the dentate line and having a characteristic blue discoloration from the contained blood. Confusion in diagnosis can arise only from a hemorrhage into an internal hemorrhoid. The symptoms are quite similar, but the latter is several times larger, has no free end, and is covered with rectal mucous membrane. In our experience, hemorrhage into an internal hemorrhoid, while mentioned in the literature, is less common than hemorrhage into a hypertrophied anal papilla. Treatment is surgical and consists of incision or excision with the patient under local anesthetic as an office procedure, or excision together with correction of associated abnormalities as a hospital procedure. Occasionally the papilla will rupture and result in complete relief of symptoms. Inspection then shows a small clot protruding from the rupture, similar in appearance to an external thrombotic hemorrhoid that has ruptured. Hemorrhage into an hypertrophied anal papilla should be suspected when the patient complains of symptoms as outlined.

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Houston 2, Texas.

BLOOD PRESSURE STUDY

To the Editor:—My associates and I are engaged in a study of the blood pressure in persons aged 65 and over. The study is sponsored by the New York Heart Association. Early in September we mailed questionnaires to 17,000 physicians throughout the country. Each physician received a letter of instruction for filling out the questionnaire. It was suggested that he supply blood pressure and other data on six cases, if possible. Thus far the number of responses has been disappointingly small. Although we realize that a relatively short time has elapsed since the questionnaires were sent out, we are afraid that many physicians may not appreciate the value of this study and the fact that it will fail unless they give their full cooperation.

In order to bring these facts to the attention of the medical profession, we would appreciate it if you could mention the project, and urge the support of physicians. Filling out the questionnaires does not require much time, and many physicians will, we hope, take the trouble to do so if they understand the importance of their cooperation. Questionnaires have been sent to only about 1 in 15 physicians. Those who have received questionnaires are urged to complete them. An additional supply of cards is available at Blood Pressure Study, 11 E. 100th St., New York 29. Others who are interested and wish to participate may do so by mailing a postcard to the same address.

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REPRINTS ON STRESS

To the Editor:—In 1950, our institute initiated the publication of a series of reference volumes entitled "Annual Reports on Stress" (Montreal, Acta Medical Publishers) in which the current world literature is surveyed every year. Up to now, we have compiled the pertinent literature partly from medical periodicals, monographs, and abstracts and partly from reprints sent to us by authors. Of all these, reprints proved to be the best source of data that we felt deserved prompt attention in our annual reports. To insure prompt inclusion of publications in the annual reports, investigators interested in stress research are requested to send us their reprints as soon as they are available.

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ALEXANDER HORAVA, M.D.
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TREADMILLS

To the Editor:—I was interested by the article by Simon and Wright in THE JOURNAL, Sept. 12, 1953, page 98, describing a motorized treadmill for quantitating intermittent claudication. I developed this apparatus 10 years ago in the Peripheral Vascular Disease Clinic of the Maimonides Hospital, and it has been in use there since. While the treadmill has long been used in metabolic laboratories for the study of energy exchange, the development of a motorized treatmill in which the rate of walking could be controlled and used for determining walking capacity and quantitating intermittent claudication was new and original with my invention. A description of the apparatus and its use in the evaluation of peripheral arterial impairment is included in the second edition of "Peripheral Vascular Diseases: Diagnosis and Treatment" (Collens, W. S., and Wilensky, N. D.: Springfield, Ill., Charles C Thomas, 1953).

It was at Dr. Wright's request that I permitted one of his resident physicians to visit my clinic to see the operation of this equipment and, with my permission, to duplicate this technique at the New York Hospital Peripheral Vascular Disease Clinic.

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To the Editor:—In reply to the letter by Dr. William S. Collens, we are very glad to extend to Dr. Collens, and to all others who have contributed to the use of the treadmill principle in the measurement of physiological response, due credit for any advances that may have led to the development of the equipment described in our article in THE JOURNAL, Sept. 12, 1953.

Dr. Collens did permit Dr. Simon to see his equipment. In order to conserve space, however, we did not review the history of the treadmill as it is presently applied. Actually, the equipment described in our paper differed in some details from that of Dr. Collens. It was largely an outgrowth of the type of treadmill used for many years in the laboratory of Dr. Eugene DuBois of the Cornell University Medical College. Our purpose in describing the equipment in some detail was simply to permit duplication by others who might wish to repeat our studies or to utilize the same technique in the evaluation of other substances that may be suggested for the treatment of intermittent claudication. This we consider to be sound practice in the presentation of any experimental data.

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AMERICAN IN JENA

To the Editor:—On my recent visit to Europe, a German professor of medicine told me the following story. In 1945 he was in Jena when American troops entered that city. Martial law was declared, and the citizens were forbidden to leave their homes. With fixed bayonets, American soldiers patrolled the city. This professor too cowered in his home, shivering and quivering. Suddenly there was a violent knock on his door. He thought his last hour had come. Trembling and covered with cold sweat, he opened the door. There, in full regalia, stood an American medical officer. The officer pulled a book from his pocket and asked sternly: "Are you Professor . . .?" "Ye-e-s-s," stuttered the frightened professor. "Did you write this book?" demanded the officer. The professor nodded a weak yes. "Then, please autograph it for me." This done, the officer snapped, "Thank you very much," came to attention, saluted, turned on his heel, and marched off.

ROBERT WARTENBERG, M.D.
San Francisco.

COUNCIL ON MEDICAL SERVICE

CONFERENCE ON PHYSICIANS PLACEMENT SERVICE ACTIVITIES

Following are the summary and conclusions of the Council's second regional conference on physicians placement service activities prepared by Rowland B. Kennedy, Executive Secretary of the Mississippi State Medical Association, who acted as conference summarizer.—ED.

The second regional Conference on Physicians Placement Service Activities was conducted in Asheville, N. C., by the Committee on Extension of Hospitals and Other Facilities,[1] Council on Medical Service, on Sept. 19, 1953, at the Battery Park Hotel. Ralph A. Johnson, M.D., Detroit, chairman of the sponsoring committee, presided. The conference was opened at 9:30 a. m. with 25 participants present, among whom were constituent society officers and committeemen, constituent society executives, representatives of medical schools, staff members of the American Medical Association, and a health council executive. States represented were Pennsylvania, Virginia, North Carolina, South Carolina, Georgia, Florida, Kentucky, Mississippi, and Alabama.

The chair oriented the conference on the background of placement service activity, pointing out the function of the American Medical Association in its role as a coordinating agency. Essentially, placement service is concerned with effecting optimum distribution of physicians throughout areas of need. The mechanics of the services are extremely direct, working most effectively from state level with the benefit of active assistance from the A. M. A. headquarters office.

Each participating state in reporting to the conference demonstrated a positive approach to the placement problem, but the degrees of emphasis upon the approaches varied widely. Factors influencing these degrees of emphasis included present supply of physicians, eccentricity of state law in medical licensure, attitudes held in constituent societies, economic and other indigenous considerations. Views expressed, however at variance in plan and detail, all sought the common solution of effective physician distribution throughout areas of need. No reporting state conveyed an impression of having regarded the problem passively.

VIRGINIA'S AGGRESSIVE APPROACH

Physicians placement service activity in Virginia is a function of the Virginia Council on Health and Medical Care. This council is comprised of some 55 member organizations among which is the Medical Society of Virginia; it is supported by the member groups, and a central office for this independent activity is maintained by an executive staff. The placement program of the council is a vigorous undertaking to supply physicians to communities with insufficient medical services. To accomplish this mission, the council makes use of a wide area of contacts through communities, organizations, physicians, county medical societies, hospital training programs, and medical schools. The program ultimately contemplates the effective placement of all graduates of Virginia medical schools and now works closely with students in the third and fourth years. The present service seeks placements (1) for an area of need where there is no physician, (2) for replacing physicians entering military service, (3) for needed specialists, (4) for associates and assistants, and (5) for replacing physicians lost through removal and death.

It is a policy of the council that its assistance in obtaining physicians must be sought by communities. Through the medium of field visits, questionnaires, and surveys aimed at determining the degree of need, the council achieves a dual purpose. First, a calculated attempt is made to educate the community to its responsibility in obtaining the physician with council assistance, and, secondly, overconcentration of medical service is fortunately avoided. While the physician is being obtained, the community is revisited to maintain interest in the enterprise. Final placement, wisely enough, depends upon arrangements and agreements arrived at by the community and the physician. A final service is furnished toward making the placement permanent by continuing the relationship initially established between the community and the physician placed. The council coordinates its activities closely with the Medical Society of Virginia and the American Medical Association.

INDIVIDUAL STATE PLACEMENT PROBLEMS

Each reporting state listed problems encountered in making a placement service effective. Among these, two reports appeared to sum up problems most nearly common to all. It was found that there was difficulty in evaluating accurately the extent of need for placement of a physician. Apparently, the best solution to this problem is use of the A. M. A.-prepared priority rating plan. Still another problem is found in the supply of physicians available to states to satisfy demonstrated needs. This problem does not presuppose a shortage of physicians nationally but rather tends to point up certain local areas of maldistribution wrought by legal peculiarities, below-average economic levels, population distribution, and facilities available. The lack of hospital facilities, more recently a problem with which nearly all areas can better cope because of the Hill-Burton program, still influences the unsatisfied need in some localities. Areas with low, unstable economic levels experience difficulty in procurement of physicians, while the lack of social advantage also poses problems.

The combined thinking of the conference for approaching solutions to the common problems of procurement in placement activity centered about establishing community responsibility for providing medical service for which there is demonstrated need. Reasonable assurances of income, adequate clinical facilities, desirable environment for his family, all tend to encourage a physician to accept a location opportunity.

MEDICAL EDUCATION'S ROLE IN PLACEMENT

Among the members of the conference were representatives of three medical schools who discussed with the conferees certain didactic aspects of medical education that tend either to influence or dissuade rural practice. There was not a pronounced tendency among the schools represented to produce specialists but rather graduates who are adequately prepared to undertake general practice or to pursue further training. The tendency for medical graduates to return to native localities, the weaknesses inherent in rural secondary education, and the superior opportunity for training and practice in the urban areas appeared a chief reason for difficulties in rural procurement. Not all conferees found this problem without resolution, and nearly all constituent societies reported active rural health programs.

A. M. A. PLACEMENT SERVICE

Physicians placement service activities of the American Medical Association are conducted by the Council on Medical Service through its staff in the Chicago headquarters office. Working files of requests, of physicians available for specified areas, and of location lists within states, follow-up files, correspondence, and liaison activity constitutes much of the task of maintaining this central and necessary coordination.

During the summer of 1953, Mr. Jack Riner, a medical student at Northwestern University, temporarily in the employment of the council, visited headquarters' offices of six constituent societies and examined state level placement programs. His report was absorbing and revealing, bringing out with clarity a majority of the problems encountered as well as explanations of techniques successfully developed.

The criteria developed during 1952 concerning the priority rating of communities in search of a physician was explained. This priority rating plan, in which numerical values are used in grading need and facilities, is being successfully applied. The plan offers what may be the best basic approach for objectively evaluating requests for physician placement.

Based largely on the findings of the Virginia approach, placement service activity appears as a vital adjunct to medical public relations. It obviously aids the economy of any given

1. The Committee members are Drs. Ralph A. Johnson, Chairman, Detroit; Elmer Hess, Erie, Pa.; Walter E. Vest, Huntington, W. Va.; E. Dwight Barnett, New York; John W. Cline, San Francisco; Cleon A. Nafe, Indianapolis; and Willard A. Wright, Williston, N. D.

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area in assuring medical care. Social and economic advantages accruing to rural life are seen from adequate medical service brought about through this program. Finally, it is meeting a recognized, existing need in effecting a better distribution of physicians as a positive countermeasure against the force of socialization. The chair reemphasized the role of the A. M. A. placement service activity as a catalyst or coordinating agency in what is primarily a state responsibility

CONCLUSIONS

The conferees concluded that (1) physicians placement is a necessary service for which there is a continuing need; although it is primarily a state responsibility, its present degree of successful development as well as its useful future depend upon coordination and leadership from the A. M. A.; (2) there are varying degrees of positive approach at state level to a constructive placement program, based upon indigenous considerations; (3) there should be a minimum standardization on the essentials of a successful placement program with regard to basic technique and objective without forcing unwanted policy upon the individual state; (4) field work is essential in the matter of educating communities in responsibilities and in surveying need; (5) there are common problems that ought to have the best cooperative thinking of the several constituent societies; and (6) the criteria for priority rating developed by the Council on Medical Service is a splendid positive approach in evaluating community need.

MEDICAL MOTION PICTURES

Man in the Window: 16 mm., black and white, sound, showing time 28 minutes. Produced in 1952 by Victor Weingarten, New York, for, and procurable on loan or purchase ($45.00) from, Health Information Foundation, 420 Lexington Ave., New York 17.

This is the story of a recalcitrant old watchmaker who accidentally injures his right hand and becomes incapacitated. One of his customers, with whom he is on a basis of pseudo-antagonistic friendship, is a physical therapist. Following a number of fruitless attempts to resume his regular work, the watchmaker accepts the friend's advice and submits to a series of physical therapeutic treatments which ultimately restore him to functional efficiency. Medically, the film is entirely satisfactory except for one point, namely, the involvement of the joint after an apparently minor hand injury. The film includes some well-selected scenes from actual physical therapy procedures carried out at Bellevue Hospital. This is a frank recruitment plea for physical therapists and is suitable for showing to lay audiences, including adult groups and children of secondary school age. The photographic quality is excellent, but the sound quality is poor.

Baby Care: Feeding: 16 mm., black and white, sound, showing time 24 minutes. Produced in 1944 by Pennsylvania State College. Procurable on loan from Pennsylvania State College, State College, Pa., or on purchase from Educational Film Library Association, Inc., 1600 Broadway, Suite 1000, New York 19, N. Y.

The film is divided into two major sequences: correct feeding of the baby, and baby's food. It depicts the more accepted procedures, at present, in the science and art of infant feeding. The introductory scenes show a mother gently awakening the baby for his feeding. This is followed by a sequence illustrating the proper method of feeding the baby, which includes both bottle feeding and breast feeding. The second half of the film is devoted to a step by step picturization of the preparation of a day's supply of the infant's formula. Flashbacks review important points in preparation of the food and feeding of the baby as the commentator summarizes the film. The chief point brought out in this film is the importance of cleanliness and how to maintain it in the feeding of small babies. This film will be useful in the instruction of mothers, Red Cross classes, practical nurses, social workers, and junior and senior high school girls in the technique of feeding infants. The photographic and sound qualities are good.

BUREAU OF LEGAL MEDICINE AND LEGISLATION

MEDICOLEGAL ABSTRACTS

Health and Accident Insurance: Total Disability in Relation to Physicians.—This was an action to recover under two health and accident policies issued to the plaintiff physician who instituted the actions. The physician died after an appeal of the case to the Supreme Court, and his wife was substituted as a party in his stead. From a judgment in the trial court in favor of the plaintiff physician, the defendant insurance company appealed to the Supreme Court of Minnesota.

The plaintiff was born in 1882. In 1909 he was licensed as a physician by the state of Minnesota. After eight years of general practice, he returned to medical school for a year of postgraduate work in obstetrics and gynecology and thereafter engaged in no other field of practice. In 1937 and later in 1944, the plaintiff purchased policies of health and accident insurance from the defendant. Each of these policies had stamped on the application the information that the plaintiff was a physician and surgeon specializing in obstetrics and gynecology. Each of the policies provided "If such injuries, as described in the insuring clause, do not result in any of the above mentioned specific losses, but shall wholly and continuously disable the insured for one day or more, the company will pay a monthly indemnity at the rate of the regular monthly benefit so long as the insured lives and suffers said total loss of time" and ". . . no reduction shall be made in any indemnity herein provided by reason of change in the occupation of the insured or by reason of his doing any act or other thing pertaining to any other occupation."

The injury that the plaintiff suffered left him with a permanent impairment. He sustained a rupture of the biceps tendon of his right arm and an acute sprain of the acromic clavicular joint as the result of an accident in his home while lifting a heavy piece of furniture in the process of laying a rug. On April 7, 1947, the plaintiff underwent an operation on his arm. A large clot was removed, and the biceps tendon that had been pulled loose from its fastening at the elbow was sutured to the triceps, another muscle in the upper arm. After 10 days in the hospital, he was discharged. He continued to suffer considerable pain and consulted a physician almost every other week until February, 1948. During this time, heat treatments, massage, and instruction in muscle reeducation were given. During the summer of 1947, there was gradual improvement, but attacks of severe pain of 3 to 10 days' duration occurred every two weeks. There was constant cramping of the muscle in the arms and pain similar to that felt when one strikes his "crazy bone." In January, 1948, a nerve block by infiltration of procaine hydrochloride (Novocaine) and quinine neuria hydrochloride was performed in an attempt to cut off the pain in the arm. The injection was repeated about a week later. The plaintiff continued to feel dull pain in his arm and was hampered by cramps when the arm was used. An examination of plaintiff just prior to the trial indicated a continued weakness in the right arm when tested against resistance. The biceps muscle was flabby, and there was a depression in the arm just above the elbow. There was a 50% loss of power in the biceps. Grasp in the right hand was 30 lb. (13.6 kg.), while in the left hand, roughly normal, the plaintiff could exert 60 lb. (27.2 kg.). Grasping power of the right hand was about one-third of what it should have been. There was an estimated 50% loss of ability in the pulling back motion of the arm, and the plaintiff experienced difficulty and pain in supination and pronation of the hand, especially when his arm was extended. He was unable to turn his arm over in front of him. The medical witnesses were of the opinion that this inability and weakness were permanent. One physician estimated a probable 15% loss of use of all functions of the right arm and hand. In the practice of obstetrics, said the court, there are certain techniques and functions that require the obstetrician to rotate his hand from

the position of supination to that of pronation. Since he was unable to make these movements, he was unable to perform the work required of an obstetrician. Also, in a large number of obstetric cases, forceps must be used. It is necessary to grasp the forceps and to turn the hand over from a position of pronation to supination or from supination to pronation. The plaintiff was unable to do this. Also, in connection with the delivery of babies, a physician must, in the great majority of cases, perform an episiotomy. This the plaintiff was unable to do because he experienced a cramp when he had to clamp down on his needle forceps. He could not use any instruments requiring a grip. In operations, after his return to work, plaintiff would make the incision and the exploration, and then his associate would take over. Plaintiff would help hold the retractor and did other work requiring the use of his left hand. He had difficulty in taking blood pressure because of lack of strength to squeeze the bulb and had to depend on his nurse to do that. She also had to help him raise patients on the examination table. Whenever he attempted to lift anything, he had pain in his right arm. There can be no question on the record that the plaintiff was totally disabled from doing any work until he returned to his office, and after his return he did not try to conduct any operations unaided. If he had not been able to arrange for an assistant, the record indicated he would have had to stop work.

The defendant insurance company contended that the terms of the policies insuring against injuries that "wholly and continuously disable" the insured and that cause "total loss of time" are not ambiguous in themselves, that "total loss of time" should not be limited so as to mean total loss of time in the business or occupation or profession of the insured, and that where the terms of the policy do not specifically limit the meaning of the loss the court cannot insert such limitation. The plaintiff contended that the words "loss of time" as used in the policies means loss of business time from the occupation stated in the application for insurance, that the policies, when considered as a whole, showed that insurers and insured intended "occupational disability" insurance, and that to limit the coverage would mean a forfeiture of rights that the insured supposed he acquired.

Where clarification of the literal meaning of the terms of the contract is necessary but the nature of the limitation is not stated in apt words in the policy, said the court, this court, when presented with a question of the extent of coverage, must decide what the intention of the parties is as to the extent of the limitation of the literal meaning of the words. The literal meaning of the policy terms must be limited to some extent. The extent of the limitation does not appear in the policy. Different interpretations of the words is reasonably possible. We then have a contract that is ambiguous, the court determined. Where one of the parties draws a contract and the other must accept or reject but cannot vary the terms, the burden is on the party drawing the contract to make the meaning plain. Where meaning is thus uncertain, as it is in contracts here involved, the ambiguities and doubts must be resolved against the party who prepared the contract. Since the policies failed to state whether "loss of time," which means loss of earnings, must be incurred in insured's specific occupation or in some other occupation, the court must read something into the policies. A layman reading the policies in question would naturally conclude that "loss of time" with nothing more said, means loss of business time in the occupation of the insured. The circumstances of the issuance of the policies, with their stamped and written notations, although the policies say nothing as to loss of time from the insured's particular occupation, surround them with an air of occupational coverage. In our opinion, the court concluded, the contracts here are clearly ambiguous and should not be construed restrictively. It would seem that this is the sort of case in which the well-settled rule of construction against the insurer should be applied. It would seem that, even if the policies in their entirety do not indicate the intention of the parties, the contracts, being ambiguous, should be interpreted against the insurer. Adopting this approach, it must be held that the policies insure against disability to do the substantial and material acts of the insured's usual profession or occupation.

Accordingly the judgment of the trial court in favor of the plaintiff physician was affirmed. *Weum v. Mutual Benefit Health & Accident Ass'n., 54 N.W. (2d) 20 (Minnesota, 1952).*

BUSINESS PRACTICE

DETERMINING THE FEE

The following material was adapted from a public relations manual issued by the Public Relations Department of the American Medical Association.—ED.

The business side of medical practice gives rise to many public relations problems. Patients may complain about the amount of the physician's fee, the way the bill is rendered, or the manner in which it was collected. One of the first hurdles is the attitude of both doctor and patient toward medical fees. Although the doctor is a professional man, if he is to survive he must also be a businessman. Patients must be encouraged to develop a realistic attitude about medical fees. Almost everyone who incurs doctor or hospital or drug bills has a hidden, if not overt, resentment about these costs. The patient's attitude is "I didn't want to be sick. Now I'm stuck with all these bills." Paying medical bills is not like paying for a new car or television set or even a new suit. A patient rarely has anything tangible to show for his medical purchase. His gratitude for the doctor's services often fades fast once he begins to recover. It is essential that patients learn to look on medical expenditures as a sound investment in their futures. Patients, too, must be taught to accept the doctor's right to charge a fair price for his humanitarian services. The answer lies in mutual understanding of the financial problems of both doctors and patients.

There is no excuse for overcharging of any kind. A medical leader warns: "When you take the heart out of medicine and substitute a dollar sign, you are doing medicine a grave disservice." Dr. Louis H. Bauer, A. M. A. past president, said in his inaugural address: "Unfortunately, there are a few physicians who consider the practice of medicine as a means of financial gain and that alone. Such individuals should be driven out of their medical societies. A physician who charges exorbitant fees or who, when summoned in an emergency, refuses to make the call unless assured that the patient can pay, is a disgrace to the profession. Only a few are guilty of such practices, but those few do the profession incalculable harm." In a constructive step toward improving public relations and doing a little "professional housecleaning," medical societies, with A. M. A. impetus, have in recent years set up mediation or grievance committees to hear and settle patients' complaints, the majority of which are about fees. The difference between high fees and excessive fees must be recognized, however. Some physicians, who have spent additional years training to be specialists, and who, by nature of their practice have greater expenses, deserve a higher fee for their services.

Fees that are too low drive patients away just as quickly as do fees that are too high. A new doctor alienates other physicians if he undercuts local fees, and his patients soon begin to wonder whether his fees are lower because he gives service of a poorer quality. A doctor must avoid belittling his own services in conversations with his patients; for example, a city physician soothed a patient about to undergo an appendectomy by assuring her that "there was really nothing to it." Later the husband complained that the bill was too high. "After all, you said yourself there was nothing to the operation," he argued. Since it is wrong to charge too much, and dangerous to charge too little, how can a doctor know just how much to charge? The fair price is best. Most persons are not looking for bargains in medicine. The average person is willing to pay a fair price for good medical service. A fair price can be arrived at only through a frank discussion with the patient.

MEDICAL LITERATURE ABSTRACTS

UNITED STATES

A.M.A. Arch. Dermat. and Syphilol., Chicago

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Chronic Discoid Lupus Erythematosus Complicated by Superimposed Squamous Cell Epithelioma: Report of Case. I. N. Holtzman.—p. 209.
Failure of Smallpox Vaccine in Treatment of Recurrent Aphthous Stomatitis. A. H. Kutscher, S. L. Lane and E. V. Zegarelli.—p. 212.
*Nonsurgical Treatment of Cutaneous Beryllium Granuloma. A. A. Fisher.—p. 214.
Sycosis Barbae Due to Trichophyton Rubrum (Purpureum): Report of Case. J. S. Ludwig.—p. 216.

Nonsurgical Treatment of Cutaneous Beryllium Granuloma.—There appears to be almost unanimous agreement that surgical intervention is the only treatment for cutaneous beryllium granuloma. The patient whose case is presented sustained lacerations on two fingers from a broken fluorescent bulb containing beryllium silicate. The wounds were sutured within one hour after the accident. Two weeks later, the tissues broke down and ulcerated, and three months later there were indolent ulcers of the skin over the distal interphalangeal joints of the third and fourth fingers of the right hand. The lesions on the fourth finger extended across the entire dorsal aspect of the phalanx and over to the mesial surface. The microscopic diagnosis was consistent with beryllium granuloma. Four months after the injury was sustained, the lesions were essentially unchanged. The patient was advised that the ulcers should be widely excised and plastic repair should be performed. This the patient refused. Boric acid ointment was applied to both lesions, and the distal interphalangeal joints of the third and fourth right fingers were immobilized with wooden splints. One month after this treatment was instituted, the smaller lesions on the middle finger had healed. However, the larger ulcer on the fourth finger was more tender and the zone of erythema was more pronounced. An ointment consisting of 5% cortisone in an oxycholesterol-petrolatum ointment was then prescribed. The patient was instructed to massage the ointment into the lesion twice daily and to keep the lesion covered with the ointment in the intervals between massage. The finger was no longer splinted. Ten days after the first application of the cortisone ointment, the lesion became less tender and the zone of erythema less marked, and there seemed to be some evidence of healing of the ulcer. The improvement continued steadily, and two months later, the lesion had healed completely. A roentgenogram at this time revealed that the previously reported osteoporosis had cleared.

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Titles marked with an asterisk (*) are abstracted.

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Effect of Therapeutic Irradiation of Carcinoma of Cervix on Liver Function. J. R. Snavely, R. H. Bullington and J. V. Schlosser.—p. 195.
*Treatment of Rheumatoid Arthritis with *p*-Aminobenzoate and Acetylsalicylic Acid. C. J. D. Zarafonetis, W. A. Steiger, I. W. Ginsburg and A. J. Heather.—p. 204.
Streptobacillus Moniliformis Infection Complicated by Acute Bacterial Endocarditis: Report of Case in Physician Following Bite of Laboratory Rat. M. Hamburger and H. C. Knowles.—p. 216.
Residuals of Yellow Fever Vaccine After 10 Years: Medical and Legal Problem. I. B. Brick.—p. 221.
Effect of Hexamethonium (C_6) on Renal Hemodynamics in Man. T. D. Ullmann and D. Diengott.—p. 228.
Toxicity of Polymyxin B: I. Animal Studies with Particular Reference to Evaluation of Renal Function. J. H. Moyer, L. C. Mills and E. M. Yow.—p. 238.
Id.: II. Human Studies with Particular Reference to Evaluation of Renal Function. E. M. Yow and J. H. Moyer.—p. 248.
Cardiac Involvement in Malignant Lymphoma. J. D. N. Nabarro.—p. 258.
Fat-Loading Studies in Relation to Age. J. Herzstein, Chun-I Wang and D. Adlersberg.—p. 265.
Review of Neuropsychiatry. S. Cobb.—p. 273.

Treatment of Hyperkalemia in Acute Renal Failure.—Of 10 patients with acute renal failure and oliguria who were treated by conservative methods, 4 were given an ammonium carboxylate cation exchange resin free from potassium by mouth. Three adults were given approximately 50 gm. of the resin daily, and the child 20 gm. daily. The resin mixed with dextrose and water to form a not unpalatable pasty mixture was given hourly or every other hour to prevent undue nausea and to cause greater dispersion of the resin throughout the intestine. The daily serum potassium concentration uniformly rose in the patients receiving no resin. In the patients receiving resin, the levels fell uniformly. Excretion of potassium in the stool in one patient receiving resin amounted to 215 mEq. over four days. Though all the patients receiving resin were nauseated to some degree, they tolerated the resin well. The authors conclude that cation exchange resins constitute an efficient means of reducing hyperkalemia or preventing its occurrence.

Treatment of Rheumatoid Arthritis.—Forty-four patients with active rheumatoid arthritis were treated with a combination of *p*-aminobenzoate and acetylsalicylic acid. The potassium salt of *p*-aminobenzoic acid was given in six doses daily of 2 gm. each. Generally 20 cc. of a 10% solution of potassium *p*-aminobenzoate was taken with each meal and midmorning, midafternoon, and at bedtime. Acetylsalicylic acid was administered in a dosage of 0.6 gm. four times daily taken at mealtime and at bedtime. Some patients also received 25 mg. of cortisone daily, but the combined use of the small amounts of the latter drug with *p*-aminobenzoic acid and acetylsalicylic acid did not result in any significant change in eosinophil counts or in 17-ketosteroid excretion. Of the 44 patients, 34 (77%) showed functional improvement evidenced by increased range of motion, striking weight gain, and diminution in joint heat, swelling, pain, and tenderness. Although striking improvement was occasionally seen after two or three weeks, the more usual course was a gradual betterment that culminated in significant improvement after three months of treatment. This improvement was maintained for from 6 to 18 months. Untoward reactions were minimal and readily reversible when use of the drugs was discontinued. Three patients had relapses when placed on placebo therapy. Two of these were treated again, with highly satisfactory suppression of the disease process. Three additional patients had relapses when treatment was stopped deliberately or because of intercurrent illness. Resumption of therapy was again followed by improvement. These observations seem to indicate clearly that the relationship between therapy and response has been too consistent to be attributed to chance remission. It should be stressed, however, that this treatment program does not cure rheumatoid arthritis. It appears logical to conclude that a true synergism is exerted by high dosage of *p*-aminobenzoate with acetylsalicylic acid. The combined use of these drugs is suppressive therapy, which frequently results in significant functional improvement.

A.M.A. Arch. Neurology and Psychiatry, Chicago

70:137-276 (Aug.) 1953

Relation of Recovery of Sensation to Intraspinal Pathways in Injuries of Spinal Cord. L. J. Pollock, B. Boshes, M. Brown and others.—p. 137.

*Myoclonus Epilepsy as Symptom of Diffuse Neuronal Disease. C. W. Watson and D. Denny-Brown.—p. 151.

Hereditary Ataxia: Difference Between Progeny of Male and Female Affected Members and Definition of Certain Signs Useful in Detecting Disease Prior to Onset of Clinical Symptoms. J. W. Schut and J. A. Böök.—p. 169.

Effects of Chronic Barbiturate Intoxication on Motivation and Muscular Coordination. H. E. Hill and R. E. Belleville.—p. 180.

Craniopagus Parietalis: Report of Case. E. G. Robertson.—p. 189.

Source and Nature of Nerve Fibers in Cat Cornea. F. C. Rodger. —p. 206.

Unipolar Anodal Electrolytic Lesions in Brain of Man and Cat: Report of Five Human Cases with Electrically Produced Bulbar or Mesencephalic Tractotomies. W. H. Sweet and V. H. Mark.—p. 224.

Mobilization of Glucose by Phlorhizin in Patients with Mental Disorders. M. D. Altschule, H. U. Grunebaum, B. H. Parkhurst and E. P. Siegel.—p. 235.

Morphology of Testes in Schizophrenia. G. Tourney, W. O. Nelson and J. S. Gottlieb.—p. 240.

Ventricular Displacement and Electroencephalographic Focus in Multiple Sclerosis. P. A. Lindstrom.—p. 254.

Cerebral Circulation and Metabolism in Multiple Sclerosis: Correlative Observations by Electroencephalography and Psychodiagnostic Testing. P. Scheinberg, L. I. Blackburn, S. C. Kaim and C. A. Stenger.—p. 260.

Glutamine, Glutamic Acid, and γ-Aminobutyric Acid in Cerebrospinal Fluids. S. Ludewig.—p. 268.

Myoclonus Epilepsy in Diffuse Neuronal Disease.—Watson and Denny-Brown state that Unverricht and Lundborg described a progressive familial syndrome of myoclonus epilepsy, the fully developed form of which was additionally characterized by progressive dementia, pseudobulbar paralysis, rigidity, and, in the late stages, quadriplegia in flexion. Diverse types of nerve cell changes have been reported in patients with this syndrome, either diffuse, "primary atrophy" or diffuse cellular changes characterized by cellular inclusions. Though descriptions of myoclonus epilepsy almost always refer to the curious dark-staining "amyloid" inclusions, this type appears to be extremely rare. A more frequent finding has been the lipoidal inclusions characteristic of amaurotic familial idiocy. Juvenile amaurotic familial idiocy has been recognized as a distinct clinical type of lipidosis of the nervous system. It is to be distinguished from the infantile form of amaurotic familial idiocy, the infantile and juvenile forms never having been reported in the same family. The appearance of epilepsy in childhood, between the ages of 6 and 12 years, in association with a progressive extrapyramidal type of rigidity, leading to dysarthria and dystonic abnormalities of gait and ultimately to a state of general flexion contracture of the limbs and body, has often been described in this disease. Nearly all patients with juvenile amaurotic familial idiocy are reported to have had epileptic seizures. There is frequent mention of sudden jerking of the limbs. Few authors have noted that such myoclonic jerking movements bring this familial disease within the clinical definition of myoclonus epilepsy. Two families exhibiting the syndrome of progressive myoclonus epilepsy are described. Two siblings of family 1 displayed the typical syndrome of progressive familial myoclonus epilepsy of the type described by Unverricht and Lundborg. An affected member of family 1 was found to have diffuse neuronal lipidosis ("cerebromacular degeneration"). Neither of the affected siblings had visual defect or pathological change in the fundus. Family 2 differed from family 1 in several important respects: Epileptic attacks in the form of self-limiting seizures of childhood occurred in one generation and partial or arrested forms of the syndrome in the other. The syndrome followed a more benign and remitting course than that in family 1. The pathological process in the second family was not verified, but a review of the problem of myoclonus epilepsy indicates that it uniformly results from diffuse neuronal disease.

A.M.A. Arch. Otolaryngology, Chicago

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Carcinoma of Middle Ear and Mastoid. J. W. Wahl and M. T. Gromet. —p. 121.

*Ménière's Syndrome: Further Observations on Vitamin Deficiency as Causative Factor. M. A. Atkinson.—p. 127.

Use of Tantalum in Otolaryngology. E. E. Scharfe.—p. 133.

Bilateral Abductor Paralysis: Survey of 521 Cases of Arytenoidectomy Via Open Approach as Reported by 90 Surgeons. D. Woodman. —p. 150.

*Sinusitis as Focus of Infection in Uveitis, Keratitis, and Retrobulbar Neuritis. F. L. Weille and R. R. Vang.—p. 154.

Sugar and Chloride in Fluid from Intranasal Cysts. J. C. Lillie.—p 166.

Septoplasty for Correction of Deviation of Nasal Septum. J. S. Stovin. —p. 168.

Effects of Chromates on Nose, Throat, and Ear. J. B. Miller.—p. 172.

Cysts of Larynx. D. J. Morgenstern and A. M. Lasala.—p. 179.

New Technique for Corrective Surgery of Nasal Tip. I. B. Goldman. —p. 183.

Intranasal Encephalomeningocele. G. S. Fitz-Hugh.—p. 188.

Complete Obstruction of Esophagus by Weight-Reducing Tablet. J. Hedayaty and C. R. Shuman.—p. 190.

Treatment of Mixed Tumor of Tongue with Radioactive Chromic Phosphate Solution. C. S. Mumma.—p. 192.

Functional Examination of Hearing. A. Lewy, S. L. Shapiro and N. Leshin.—p. 205.

Ménière's Syndrome.—Atkinson reported in 1949 and 1950 investigations along nutritional lines in 87 patients with Ménière's syndrome. These studies demonstrated that patients can be divided by means of a histamine skin test into three groups: one in which the mechanism is primarily vasoconstrictor; another in which the mechanism is vasodilator; and a third, an intermediate group, in which the attacks are now one and now the other. All three groups show signs of chronic severe deficiency of the vitamin B complex; the signs in the vasoconstrictor group are those of a predominant nicotinic acid deficiency; the signs in the vasodilator group are those of a predominant riboflavin deficiency; and the signs in the intermediate group are those of a mixed deficiency of both nicotinic acid and riboflavin. All three groups show some evidence of thiamine deficiency, but this does not appear to be the determining factor. The attacks of vertigo can be controlled by administration of the appropriate vitamins in suitable dosage, and tinnitus often can be considerably improved and occasionally entirely relieved with the same regimen, but deafness can only rarely be modified. This therapeutic regimen together with attention to proper dietary habits also greatly improved the general health of the patients. An additional group of 105 patients has been investigated along identical lines and the clinical observations and the therapeutic results

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confirm those previously described. It is now the author's practice in every case of Ménière's syndrome to obtain a detailed record of the intake of food, fluid, alcohol, and drugs and of the use of tobacco for seven consecutive days and a history of dietary habits in general in the past, special dietary restrictions if any, and so on. When such a record is taken it is surprising to find how inadequate in many essentials, how ill-balanced and often injudicious is the diet even of people who might be expected to know and to do better. Patients in the age group in which Ménière's syndrome commonly arises, 40 to 60, require a high protein, high vitamin, moderate to low carbohydrate, and low fat diet. It is a rarity to find such a diet. Yet if patients with Ménière's syndrome are to be restored to full health and efficiency and not merely relieved of their attacks, insistence on such a diet is essential.

Sinusitis as Focus of Infection in Eye Lesions.—Weille and Vang point out that questioning of the eye surgeons at the Massachusetts Eye and Ear Infirmary revealed that none denied the possibility of sinus foci in causing eye disease, but they considered such a relationship to be rare. Infected teeth, tonsils, and prostates were most commonly held responsible, but the sinuses only rarely and then usually by direct extension of infection to the orbit. The pathological physiology of a sinus focus of infection is discussed. Attention is given to toxemia, lymphangitis and bacteremia, bacterial allergy, nasal reflexes in relation to the eye, and direct extension. The files of the Massachusetts Eye and Ear Infirmary were searched for cases of uveitis, optic neuritis, and keratitis, and efforts were made to determine which patients had undergone a search made for foci of infection and more particularly for sinus infection. Of 668 cases studied, there were 427 of uveitis, 43 of optic neuritis, and 198 of keratitis. The three groups of patients are discussed not only with regard to the presence of foci of infection, particularly in the sinuses, but also with regard to the effects of surgical treatment of the sinus lesions on the eye lesions. The authors gained the impression that if the sinusitis is such as to require treatment on its own merits, whatever management is indicated, whether medical or surgical, should be carried out. The attempt to eradicate sinus disease in order to cure uveitis may be undertaken if the rhinologist, the ophthalmologist, and the patient all understand clearly that such therapy only occasionally is useful as far as the eye disease is concerned. Controversy rages regarding the importance of sinusitis in keratitis, especially in that complicating corneal transplants. Ophthalmologic surgeons at the Massachusetts Eye and Ear Infirmary are skeptical of any basic relationship. As regards retrobulbar neuritis, the authors say that dehiscences in posterior ethmoid cell walls in close relationship to the optic nerve are common. Posterior ethmoiditis is extremely common in clinical practice, but its association with retrobulbar neuritis is rare. This is true also of sphenoiditis, although sphenoidal dehiscences in relation to the optic nerve and optic chiasm are frequent. Of 38 cases of retrobulbar neuritis in which search for foci was carried out, sinusitis could be found in only 4. In one it was an obvious cause of retrobulbar neuritis incidental to massive infection, which caused death within one week.

American J. Digestive Diseases, Fort Wayne, Ind.

20:221-250 (Aug.) 1953

Correlation of Roentgenological Studies with Certain Clinical Symptoms in Peptic Ulcer. F. J. Lust.—p. 221.
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Id.: 3. Distribution of Shigella Strains in Jamaica and Costa Rica. O. Felsenfeld, V. M. Young, L. S. Grant and S. Ferreira.—p. 237.
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Clinical Re-Evaluation of Dorbane in Treatment of Functional Constipation. M. M. Marks.—p. 240.
CCK Treatment for Syndrome of Vague Abdominal Distress, Symptomatic and Roentgenographic Study. T. M. Feinblatt and E. A. Ferguson Jr.—p. 242.

American Journal of Ophthalmology, Chicago

36:1025-1188 (Aug.) 1953

Effect of Adrenal Cortex Hormonal Therapy on Experimental Brucella Uveitis. R. M. Wood, B. Becker and A. C. Woods.—p. 1025.
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Some Phenomena Associated with Amblyopia. N. S. Jaffe and F. W. Brock.—p. 1075.
Residual Accommodation: Method for Its Objective Determination: With an Analysis of Several Different Cycloplegics, Especially Homatropine (Five Percent) in Methylcellulose and Zephiran. R. H. Rasgorshek. —p. 1086.
Prevention of Infection in Ophthalmic Surgery: Further Studies. M. H. Post Jr.—p. 1091.
Sympathetic Ophthalmia: History of Its Pathogenic Studies. H. H. Joy. —p. 1100.

American Journal of Physiology, Washington

174:1-190 (July) 1953. **Partial Index**

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Influence of Anesthesia on Cortical Irradiation and Reflex Myoclonus. J. K. Merlis and C. Lombroso.—p. 135.
Brain Metabolism During Acclimatization to High Altitude. H. G. Albaum and H. I. Chinn.—p. 141.
Effect of Sympathomimetic Drugs on Q-T Interval and on Duration of Ejection. J. W. Remington and R. P. Ahlquist.—p. 165.
Intestinal Blood Flow in Curarization. L. H. Elwell and J. W. Bean. —p. 185.

Am. J. Roentgenol. & Rad. Therapy, Springfield, Ill.

70:365-542 (Sept.) 1953

Investigations into First Effects of Roentgen Rays on Living Protoplasm as Studied with Modern Fluorochromes. S. P. Strugger, A. T. Krebs and Z. S. Gierlach.—p. 365.
*Recurrences and Metastases in Cancer of Breast: An Analysis of 100 Cases. P. W. Hodler and E. P. Pendergrass.—p. 376.
Signal Skeletal Metastases from Renal Carcinoma: Report of Three Cases with Special Roentgen Features. C. W. McClanahan and L. J. Bonann.—p. 387.
On Accessory Ossicles of Supraoccipital Bone: Some Newly Recognized Roentgen Features of Normal Infantile Skull. J. Caffey.—p. 401.
Familial Metaphyseal Dysplasia. M. B. Hermel, J. Gershon-Cohen and D. T. Jones.—p. 413.
Paradoxical Crossing of Radius in Anteromedial Dislocation of Head of Radius to Give Supination Contracture of Forearm. M. Burman. —p. 422.
Volvulus of Esophagus. C. M. D'Alessio.—p. 425.
*Primary Amyloidosis with Involvement of Stomach. R. N. Cooley. —p. 428.
Saline Concentration in Cholecystography. P. S. Friedman and L. Solis-Cohen.—p. 437.
Radiation Hazard During Angiocardiography. W. Dubilier Jr., H. W. Burnett, C. T. Dotter and I. Steinberg.—p. 441.
Simultaneous Biplane Cerebral Roentgenography. W. B. Seaman, W. G. Scott and W. D. Henry.—p. 445.
Pathology of Fracture of Femoral Neck Following Irradiation. M. Bonfiglio.—p. 449.
Roentgen Therapy Through Grid for Advanced Carcinoma. J. R. Freid, A. Lipman and L. E. Jacobson.—p. 460.
Toxicity of Polonium 210 in Mice: I. 30 Day LD_{50}, Retention, and Distribution. M. P. Finkel, W. P. Norris, W. F. Kisieleski and G. M. Hirsch.—p. 477.

Recurrences and Metastases in Cancer of the Breast.—One hundred women with cancer of the breast, one of whom is living at the present time, are reviewed with special emphasis on the time of appearance of recurrences and metastases after the estimated onset of the disease. The peak age incidence

was in the 40 to 50 year group. Of the 100 patients, 76 were given surgical treatment combined with roentgen therapy, 15 had roentgen therapy alone, 6 had surgical treatment alone, and 3 had no treatment of any kind. Roentgen therapy added to surgical treatment did not improve the survival rate. The arithmetical mean number of years between the estimated onset of the disease and death for the group as a whole was three to four years. The arithmetical mean number of years between the estimated onset of the disease and the appearance of recurrences or metastases was two to three years. Of the 100 patients, 92 had recurrences or metastases, 67 of the 92 had one recurrence or metastasis, 19 had two recurrences or metastases, and 6 had three or more recurrences or metastases. By considering the interval of time between the estimated onset of the disease and the appearance of the first, second, third, or more recurrences or metastases it was calculated that 70 to 90% of those patients in whom recurrences or metastases from cancer of the breast develop will have the first recurrence within three years after the onset of the disease. Of those patients who have two or more recurrences or metastases from cancer of the breast, 59 to 96% will have these within four years after the estimated onset of the disease. In the 100 patients studied no clear cut cyclic tendency in the appearance of recurrences or metastases was demonstrated.

Primary Amyloidosis with Involvement of the Stomach.—According to Cooley, primary amyloidosis is a rare disease that most frequently involves the heart, but, in addition, often invades the stomach and the remainder of the gastrointestinal tract. Despite the high incidence of gastrointestinal involvement, definite signs or symptoms of involvement of the stomach, which dominated the clinical picture, were observed in only seven cases collected from the literature. In these cases hematemesis, abdominal pain, and vomiting secondary to pyloric obstruction were most frequent. Changes observed in the stomach at autopsy were (1) infiltration of amyloid in the adventitia and ambient areas of the small blood vessels in the submucosa; (2) replacement of the portions of the muscular wall of the stomach by amyloid; (3) atrophy of the mucous membrane of the stomach that is usually extensive and associated with necrosis, degeneration of the glandular cells, and infiltration of amyloid between the cells; (4) multiple erosions of the mucous membrane with hemorrhage, and (5) ulceration of the stomach wall similar to that seen in peptic ulcer. The occurrence of primary amyloidosis with involvement of the stomach is reported in a 59-year-old man whose case was similar in many respects to the seven cases collected from the literature. There was roentgenologic evidence of an ulcer 2 cm. in diameter on the lesser curvature of the stomach. The lesion healed rapidly on a medical regimen and could not be demonstrated at operation five weeks later. This ulceration was in close relationship to an area of pronounced amyloid thickening of the stomach wall. A complicating feature was that symptoms first appeared and the ulcer was first noticed while the patient was receiving doses of from 200 to 160 mg. of corticotropin (ACTH). A tendency toward ulceration of the area of amyloid infiltration probably was enhanced by the administration of corticotropin. There is a pronounced similarity of the roentgenologic manifestations of amyloid deposits in the stomach to those seen in gastric cancer. It is impossible to differentiate between the two on roentgenologic evidence alone. In no case recorded in the literature has the amyloid deposit in the stomach been an isolated occurrence, but this does not clarify the issue since carcinoma of the stomach may occur in the presence of diffuse amyloidosis.

Bulletin of Johns Hopkins Hospital, Baltimore

93:65-146 (Aug.) 1953

Behavior and Temporal Rhinencephalon in the Monkey. A. E. Walker, A. F. Thomson and J. D. McQueen.—p. 65.

Filter Paper Electrophoresis of Human Hemoglobins with Special Reference to Incidence and Clinical Significance of Hemoglobin C. E. W. Smith and C. L. Conley.—p. 94.

Studies of Extrahepatic Biliary Obstruction in White Mouse by Fluorescence Microscopy. A. L. Grafflin and V. E. Chaney Jr.—p. 107.

Circulation, New York

8:161-320 (Aug.) 1953

*Rheumatic "Activity" as Judged by Presence of Aschoff Bodies in Auricular Appendages of Patients with Mitral Stenosis: I. Anatomic Aspects. J. P. Decker, C. Van Z. Hawn and S. L. Robbins.—p. 161.

*Hypertension and Coronary Occlusion. A. M. Master.—p. 170.

Pulmonary Function in Rheumatic Heart Disease and Its Relation to Exertional Dyspnea in Ambulatory Patients. J. R. West, H. A. Bliss, J. A. Wood and D. W. Richards Jr.—p. 178.

Critical Evaluation of Hypotensive Action of Hydrallazine, Hexamethonium, Tetraethylammonium and Dibenzyline Salts in Human and Experimental Hypertension. A. P. Shapiro and A. Grollman.—p. 188.

Hemodynamic Effects of Hypotensive Drugs in Man: IV. 1-Hydrazinophthalazine. E. D. Freis, J. C. Rose, T. F. Higgins and others.—p. 199.

*Further Observations on Effects of Autonomic Blocking Agents in Patients with Hypertension: I. General Systemic Effects of Hexamethonium, Pentamethonium, and Hydrazinophthalazine. D. Grob and H. G. Langford.—p. 205.

Effect of Dibenzyline on Skin Temperature, Peripheral Blood Flow, and Vasomotor Responses in Normal Patients and Patients with Increased Vasoconstrictor Tone. M. Moser, D. Watkins, N. Morris and others.—p. 224.

Comparison of Direct and Indirect Blood-Pressure Determinations. L. N. Roberts, J. R. Smiley and G. W. Manning.—p. 232.

Parasystole. A. Pick.—p. 243.

Effect of Threshold Electrical Stimulus Upon Repolarization Process of Left Ventricle of Intact Dog Heart. L. H. Nahum, H. Levine, H. Geller and R. Sikand.—p. 253.

Atabrine in Ventricular Tachycardia. A. M. Samia and M. M. Alimurung.—p. 257.

Spatial Orientation of Plane Including Mean QRS and T Vector of Normal Electrocardiogram. N. Kimura.—p. 261.

Circulatory Response to Valsalva Maneuver of Patients with Mitral Stenosis With and Without Autonomic Blockade. D. G. Greene and I. L. Bunnell.—p. 264.

Kinetocardiogram: I. Method of Recording Precordial Movements. E. E. Eddleman Jr., K. Willis, T. J. Reeves and T. R. Harrison.—p. 269.

New Index for Quantitative Ballistocardiography: Velocity of Body Displacement. V. Masini and P. Rossi.—p. 276.

Long-Range Observations of Sodium Exchange in Patients with Congestive Heart Failure. J. A. Lusk III and S. D. Palmer.—p. 282.

Diagnosis and Prevention of Bacterial Endocarditis. A. L. Bloomfield.—p. 290.

Aschoff Bodies in Auricular Appendages of Patients with Mitral Stenosis.—A total of 183 left auricular appendages that were removed during interventions for mitral stenosis were studied to detect the presence of Aschoff bodies. The authors found them in 83 (45.3%) of the appendages. They were located within the endocardium and oftener in the loose-structured subendocardium. This incidence of Aschoff bodies does not differ greatly from that found by other authors at autopsy on patients with rheumatic heart disease. The authors studied 172 of these appendages to detect the presence of old or recent thrombosis. Both types of thrombi were found, but old organized thrombi were commoner. There was thrombosis in 71 (41.3%) appendages, and Aschoff lesions were present in only 7 of these 71. These findings are in agreement with those of other workers who have reported a decreased incidence of rheumatic activity in the presence of auricular thrombosis. Autopsy was performed on 22 of the patients of this study, including 6 in whose appendages Aschoff bodies were found. Autopsy revealed these bodies in the remainder of the heart of five of these six patients. Although the number of patients studied is too small for a final statement, the authors conclude that the presence of Aschoff bodies in the auricular appendage is paralleled by their presence in the rest of the heart and, as in their cases, they are located mainly in the left ventricular myocardium.

Hypertension and Coronary Occlusion in Men and Women.—The author studied 500 men and 100 women (consecutive private patients), all under the age of 65, with coronary occlusion to reexamine the problem of the relationship between hypertension and coronary disease. The blood pressure had been recorded before the attack in 478 of these patients. For the others informations were given by the referring physicians or by the patients themselves. The author based his study on the new limits of hypertension that Master, Dublin, and Marks recently established with respect to a person's age and sex. They based their values on a study in which they sampled and analyzed statistically the blood pressure readings of 74,000 working men and women between the ages of 16 and 65

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years. According to their new values, almost half of the men (48.6%) had the coronary attack between the ages of 50 and 60 years (average age, 51.1 years). Only 27% of them had had hypertension before the occurrence of coronary occlusion, and it had increased slightly, if at all, with age. More than 70% of them had had normal blood pressure, thus suggesting that if hypertension is at all a factor causing coronary occlusion in men it is not the most important factor. Women had the coronary attack at a later age (average age, 54.8 years). Hypertension had been present in 71% of them before the occlusion occurred. It thus appears to be a definite factor in producing coronary disease among women. A recent postmortem study by Zeman and Schwartz confirmed these findings. Hypertension does not seem to be a factor responsible for coronary disease and occlusion in men, whereas it is a definite factor for their causation in women. In previous studies on hypertension in women it was found that arterial tension is slightly higher in women, beginning at the age of 45 to 50, than in men. The difference is small but distinct. Whether it is sufficient to initiate or accelerate the process of atherosclerosis in women at the age of 55 to 60 is questionable. The serum cholesterol and S_f 12-20 lipoprotein ratios are higher in patients with hypertension, and they may be factors through which hypertension accelerates atherosclerosis.

Methonium Salts and Hydrazinophthalazine in Hypertension.—The authors report the effects of hexamethonium and pentamethonium administered intravenously and orally and of hydrazinophthalazine administered alone and concurrently with hexamethonium to patients with hypertension. Oral and intravenous administration of hexamethonium or pentamethonium caused an initial moderate reduction in blood pressure. The initial response was greater in patients with malignant hypertension who had reduced serum concentration of sodium or severe encephalopathy. The response to the drugs was increased by sodium depletion or severe encephalopathy. The methonium salts inhibited the ganglionic conduction with reduction of sympathetic vasoconstrictor tone and partial inhibition of reflexes through the sympathetic and parasympathetic nervous systems. Continued oral administration of the drugs caused diminished response to either drug. The effects of reduction in pressure by oral administration of hexamethonium were renal insufficiency terminating in uremia, evidence of myocardial and renal ischemia, and transient loss of vision. Since all the patients in whom these effects occurred had malignant hypertension, it is suggested that the danger of reduced blood flow to the kidneys, heart, retina, and brain is greater in these patients. Side-effects of the drugs were dryness of the mouth, slight blurring of vision, increased warmth of the extremities, and chilly sensations. They were mild and did not require any therapeutic measure. Hydrazinophthalazine produced a slight to moderate reduction in pressure in about half the patients studied. With concurrent administration of hexamethonium the reduction in pressure was greater than when either drug was given alone. Tolerance to the hypotensive effect of the drug developed more slowly, and the postural hypotension was less pronounced than that following hexamethonium given alone. Similar degrees of postural hypotension appeared to be somewhat better tolerated. The effect of the two drugs on the blood pressure appeared to be approximately additive in most patients. In none of the patients was there more than mild and transient reduction of renal function following reduction in blood pressure by hydrazinophthalazine or by this drug combined with hexamethonium. Although it did not increase the renal blood flow significantly, hydrazinophthalazine appeared to lessen the effect of reduced blood pressure by intravenous administration of hexamethonium on renal blood flow and glomerular filtration. The side-effects of hydrazinophthalazine were headache and conjunctivitis, sometimes hiccups and elevated temperature. Concurrent administration of this drug and hexamethonium enables a greater and more prolonged reduction in blood pressure than administration of hexamethonium alone, and fewer untoward effects may occur after comparable reduction in blood pressure. It may also be desirable to administer hydrazinophthalazine before hexamethonium.

Illinois Medical Journal, Chicago

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Diaphragmatic Hernia: Report of 103 Cases. G. D. Lavers and C. D. Branch.—p. 193.
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Indiana State Medical Assn. Journal, Indianapolis

46:713-820 (Aug.) 1953

Early Diagnosis of Carcinoma of Gastro-Intestinal Tract. J. R. Paine. —p. 737.
Obstetric Helps. C. O. McCormick.—p. 745.
Early Care of Poliomyelitic Paralysis. C. D. Martz.—p. 755.

Journal Clin. Endocrin. & Metab., Springfield, Ill.

13:1021-1156 (Sept.) 1953

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Progesterone Metabolism: II. Pregnanediol Excretion Following Oral, Sublingual and Parenteral Administration of Progesterone. R. H. Fischer and S. P. McColgan.—p. 1043.
Urinary Dehydroepiandrosterone in Idiopathic Hirsutism: Influence of Cortisone Therapy. L. I. Gardner.—p. 1054.
Urinary Steroid Excretion after Total Adrenalectomy: I. Levels of 17-Ketosteroids in Cancer Patients Maintained on Varying Amounts of Cortisone Acetate and Glycyrrhizin. P. B. Hudson, A. Mittelman and P. Mann.—p. 1064.
Electroencephalographic Observations on Patients Undergoing Cortisone and ACTH Therapy. H. L. Wayne and J. Boyle.—p. 1070.
Effect of Epinephrine on Urinary pH and Electrolyte Excretion in Man, J. U. Schlegel, J. J. Betheil and A. L. Bloch.—p. 1082.
X-Ray Treatment of Malignant Exophthalmos: Report on 28 Patients, W. H. Beierwaltes.—p. 1090.
*Successful Treatment of Case of Cushing's Syndrome by Electrocoagulation of Hypophysis. B. Arner, R. Luft, H. Olivecrona and B. Sjögren.—p. 1101.
Quantitative Effect of Cortisone Upon Ketosteroid Excretion and Clinical Picture of Adrenogenital Syndrome. H. S. Kupperman, R. Finkler and J. Burger.—p. 1109.
Arthritis and Panhypopituitarism. M. Sugar.—p. 1118.

Electrocoagulation of Hypophysis in Cushing's Syndrome.—A typical advanced case of Cushing's syndrome is described in a 24-year-old woman. She was given two courses of irradiation of the hypophysis, one in July and one in November, 1943; 1,500 r were given in each of the two series and resulted in the disappearance of all symptoms of the syndrome by the beginning of 1944. Symptoms reappeared during the spring of 1948 and she was again treated by irradiation of the hypophysis in September, 1948, with some temporary improvement. On examination in April, 1950, the disease was more advanced and retreatment with massive doses of roentgen rays (4,500 r) was ineffective. There was pronounced obesity of the buffalo type with thin extremities and a fullmoon face. Pronounced hypertrichosis was localized in the face, thorax, abdomen, and extremities. The patient had numerous purple striae on the hips and abdomen, ecchymoses, and severe acne of the face and upper thorax. Blood pressure at rest was 200/130 mm. Hg, and the heart was enlarged to the left. There was increased excretion of reducing corticoids. An adrenocortical tumor had been excluded in 1943 by means of perirenal insufflation of air and palpation of the adrenal glands at an exploratory laparotomy. In June, 1951, an attempt was made to destroy the hypophysis by electrocoagulation in order to abolish the presumed hypersecretion of the adrenocorticotropic hormone. The pituitary region was exposed by a rather small pituitary flap and the arachnoid in the cisterna chiasmatica removed as completely as possible. Electrocoagulation of the pituitary gland was then performed in two stages with an interval of 10 days. During the first stage electrocoagulation was carried out in 7 different places and in 13 during the second stage. All symptoms remained unchanged after the first stage, but rapid improvement, which

was obvious after 10 days, occurred after the second operation. Three weeks after the last operation the patient had her first menstruation in three and a half years. Menstruation has remained regular since, the patient continued to lose weight, blood pressure showed a gradual decline, and her habitus became normal. She became pregnant 14 months after the operation, a legal abortion was performed, and menstruation reappeared the next month. The patient is still healthy 19 months after the operation. The electrocoagulation did not cause complete destruction of the pituitary gland, as the gonads, thyroid, and adrenals showed normal function. The result of the operation, i. e., the clinical cure of the patient in association with normally functioning hypophysis and adrenal cortices, strongly suggests the etiological significance of the pituitary gland in this case of Cushing's syndrome.

Journal of Immunology, Baltimore

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Id.: VI. Relationship of Neutralizing Antibodies to Determination of Susceptibility and to Evaluation of Immunization Procedures. W. J. Bashe Jr., T. Gotlieb, G. Henle and W. Henle.—p. 76.

Flocculation Reaction of Rabbit Antibody. H. E. Bowen and L. Wymann. —p. 86.

Propagation of Coxsackie Viruses in Cultures of Human Tissues. T. H. Weller, F. C. Robbins, M. B. Stoddard and G. L. Florentino.—p. 92.

Allergic Encephalomyelitis in Rat Induced by Intracutaneous Injection of Central Nervous System Tissue and Adjuvants. M. M. Lipton and J. Freund.—p. 98.

Influence of Non-Specific Inhibitor on Diagnostic Hemagglutination-Inhibition Test for Influenza. M. R. Hilleman and J. H. Werner. —p. 110.

Journal Lab. and Clinical Medicine, St. Louis

42:165-334 (Aug.) 1953

Factors Influencing In Vitro Uptake of Radiophosphorus by Human Erythrocytes. A. R. Feinstein, E. L. Gordon and W. F. Bethard. —p. 165.

Erythrocyte Carbohydrate Metabolism: I. Flow of C^{14}-Glucose Carbon into Lactic Acid, Carbon Dioxide, Cell Polymers and Carbohydrate Intermediate Pool. G. R. Bartlett and A. A. Marlow.—p. 178.

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Congenital Familial Deficiency of Stable Prothrombin Conversion Factor: Re-Study of Case Originally Reported as "Idiopathic Hypoprothrombinemia." P. G. Frick and P. S. Hagen.—p. 212.

Toxic Effects of Modified Human Globin. I. C. Plough, P. E. Teschan and D. Seligson.—p. 224.

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Study of Movements of Cutaneous Interstitial Fluids in Human Beings by Means of Fluorescent Tracer Substance. R. W. Gifford Jr., J. E. Estes Jr., C. F. Code and others.—p. 299.

Maine Medical Association Journal, Portland

44:227-256 (Aug.) 1953

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Bacterial Meningitis in Infants—Aids to Early Diagnosis and Initial Therapy. G. W. Hallett Jr.—p. 237.

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Spontaneous Subarachnoid Hemorrhage and Intracranial Aneurysm. R. L. Bidwell.—p. 245.

Maryland State Medical Journal, Baltimore

2:399-482 (Aug.) 1953

*Bleeding Esophageal Varices and Their Surgical Treatment. R. R. Linton.—p. 400.

Bleeding Esophageal Varices.—Esophageal varices are a constant and serious threat to the life of the patient in whom they occur because the exsanguinating hemorrhages following their rupture frequently result in death. The cause of the rupture, which invariably takes place within a few centimeters of the cardioesophageal junction, although the varices may extend the entire length of the esophagus, has never been satisfactorily explained. The incidence of fatal hemorrhage is much higher among patients with esophageal varices secondary to cirrhosis of the liver than it is among those with Banti's disease, who are usually younger. Treatment of patients with bleeding esophageal varices requires emergency control of the hemorrhage, followed by the construction of a portacaval shunt to bring about a permanent reduction in portal hypertension and thus prevent further rupture of the varices. Cardioesophageal tamponade with an intragastric balloon tube, supplemented by immediate transesophageal suture of the varices, is recommended as the best emergency method of controlling the massive bleeding in these patients when it does not stop spontaneously. The great advantage offered by this method is that, once the bleeding is controlled, the patient's condition can be built up more satisfactorily with proper food and vitamins than when any other method is employed. The definitive procedure, or construction of the portacaval shunt, should be undertaken as soon as the patient's condition warrants, usually at the end of three or four weeks. The two types of portacaval shunts that have proved most effective are (1) an end-to-side splenorenal anastomosis with splenectomy, and (2) a direct portal vein-to-inferior vena cava anastomosis. The choice of the type to be used depends largely on the size of the spleen, the condition of the patient, and the degree of liver impairment. A surgeon should not attempt a splenectomy in a patient with bleeding esophageal varices unless he is prepared to carry out a splenorenal anastomosis at the same operation, because it may be his only chance to construct a satisfactory shunt, especially in patients with Banti's disease. Portacaval shunt operations should never be undertaken for the relief of chronic ascites alone. Results obtained by the construction of portacaval shunts in 90 patients treated at the Massachusetts General Hospital since 1945 have been extremely encouraging; 77, or 86%, of the patients survived, an operative mortality rate of 14%. Most of the deaths occurred in the earlier years, so that the mortality rate for the last 60 shunts performed was only 5% (three deaths).

New York State Journal of Medicine, New York

53:1807-1902 (Aug. 15) 1953

Diabetes and Tuberculosis. E. S. Gais.—p. 1844.

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Management of Cirrhosis of the Liver. J. Post.—p. 1856.

Juvenile Nasopharyngeal Angiofibroma. S. D. Hemley, A. Schwinger and A. B. Friedman.—p. 1861.

Neurologic Sequelae of Spinal Anesthesia. E. D. Friedman.—p. 1864.

Safe Analgesic Agent Required for Industrial Use. R. J. Murray. —p. 1867.

Plastic & Reconstructive Surgery, Baltimore

12:99-166 (Aug.) 1953

Observations on Development of Circulation in Skin Grafts: VII. Effect of Antihistaminic (Benadryl) on Homologous Skin Grafts. H. Conway, A. P. Jerome and R. B. Stark.—p. 99.
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Some Psychological Hazards of Plastic Surgery of Face. F. C. Macgregor.—p. 123.
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Facial and Hand Deformity in Acrocephalosyndactyly. M. L. Lewin. —p. 138.
Notes on Case of Carcinoma Following Shell-Wound of Face. J. Penn and E. Epstein.—p. 148.
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Public Health Reports, Washington, D. C.

68:829-920 (Sept.) 1953

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Teaching-Learning Situation. G. W. Allport.—p. 875.
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61:161-316 (Aug.) 1953

*Roentgen Differentiation of Pulmonary Tension Disorders in Infants and Children. J. A. Campbell and R. A. Silver.—p. 161.
Roentgenologic Considerations in Diagnosis of Congenital Tricuspid Atresia. S. N. Marder, W. B. Seaman and W. G. Scott.—p. 174.
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Phlebographic Diagnosis and Treatment of Post-Phlebitic Syndrome. D. A. Felder.—p. 208.
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Spontaneous Fracture of Femur in an Infant with Large Occipital Meningocele. A. Jungmann.—p. 231.
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Radiological Demonstration of Zygomatic Arch. D. D. McRoberts. —p. 246.
Nucleoprotein Changes in Gastrointestinal Tract Following Total-Body Roentgen Irradiation. F. W. Tillotson and S. Warren.—p. 249.
Roentgenographic Studies of Osteoporosis: I. Replacement of Common Salt by Balanced Salt in Diet of Rats. J. Gershon-Cohen and J. F. McClendon.—p. 261.

Pulmonary Tension Disorders in Infants and Children.—The primary causes of pulmonary tension rarefactions in the lungs of infants and children are congenital bronchial malformations and acquired interstitial and pleural air cysts. In both groups tension states develop as a result of check valve mechanisms between the distended cavity and its air supply. Differentiation of the acquired from the congenital forms is important to prognosis and treatment, and this is best accomplished by careful correlation of the roentgen and clinical findings. Serial chest roentgenograms are the most important single aid in differential diagnosis. Occasionally bronchography and planigraphy will make possible recognition of these lesions. In the congenital group, complete surgical removal is the only definitive treatment for all but the generalized forms, while the acquired lesions are best treated conservatively. Accurate roentgenologic differentiation of various tension disorders is sometimes impossible but a system of analysis is presented that should allow separation of the surgical from the nonsurgical types.

Review of Gastroenterology, New York

20:601-696 (Sept.) 1953

Evolution and Evaluation of an Acceptable Operation for Peptic Ulcer: (Including Description of Technic of Tubular Gastric Resection with Transverse Gastroplasty, and Extrapleural Sternotomy for Operations in Attic of Abdomen). O. H. Wangensteen.—p. 611.
Problems in Gastric Surgery. R. H. Patterson and J. M. Cantellops. —p. 627.
Surgical Aspects of Diverticulitis. F. Glenn and C. S. Harrison.—p. 643.
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South Dakota J. Med. & Pharmacy, Sioux Falls

6:169-196 (July) 1953

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"In Defense of the Right Ovary." B. Ranney.—p. 176.

U. S. Armed Forces Med. J., Washington, D. C.

4:1107-1246 (Aug.) 1953. **Partial Index**

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Treatment of Trichophyton Purpureum Infections. R. E. Lyons, C. W. Weller, J. W. McNamara and J. L. Derzavis.—p. 1175.
Simple Method of Stereoscopy. H. L. Berman and J. E. Edwards. —p. 1181.
Analysis of Swimming Pool Turnover Standard. R. G. McCall.—p. 1189.
*Technic for Differentiating and Preserving Protozoa in Feces. A. J. Bucki, W. H. Wells and J. R. Vail.—p. 1195.
Causes of Reduced Vision in Inductees. W. G. Hopkins.—p. 1201.
Dislocation of Carpal Lunate and Navicular Bones. W. G. Phippen and R. E. Reiner.—p. 1207.
Reflex Anuria. E. M. Tomlin and T. N. Quilter.—p. 1211.
Development of Armed Services Blood, Blood Derivatives, and Plasma Expanders Program. M. M. Link.—p. 1221.
An Appointment Plan in Lieu of Sick Call. R. S. Bigham Jr. and D. S. Wenger.—p. 1227.
Opportunities for Professional Training in Class I Army Hospitals. R. M. Hardaway III.—p. 1235.

Differentiating and Preserving Protozoa in Feces.—A relatively simple method for the identification of the cysts and trophozoites of intestinal protozoa in feces is described. It is based on the wet fixation and staining of the organism with a mixture containing a single dye, brilliant cresyl blue. The staining solution has the following formula: brilliant cresyl blue (N. F. Biological), 2 gm., methanol, 75 cc., formaldehyde (U. S. P.), 5 cc., glacial acetic acid (U. S. P.), 2.5 cc., phenol (U. S. P.), 2.5 cc., and distilled water, 15 cc. After the solution is thoroughly mixed, it is ready for immediate use. No filtration is required. The liquid phenol is prepared by placing a bottle of phenol crystals in a hot water bath until liquefaction occurs. Best results are obtained when the ingredients are used in the proportions as given in the above formula. Should a weaker stain be desired, the solution may be diluted with distilled water. The solution is stable and, if stored in tightly stoppered brown glass containers, may be kept for long periods without deterioration. A small portion of the fecal material is mixed in a large drop of the staining solution on a clean slide. After a smooth emulsion is obtained, a coverglass is applied and an immediate microscopic examination may then be made. When the solution is used as a preservative for fecal specimens, one part of the fresh stool specimen is thoroughly mixed with about five parts of the solution in a glass vial or similar container. Such specimens may be examined weeks later, provided the container has been tightly stoppered. Permanent wet preparations may be made by sealing the cover slide with a ringing material. The authors examined stool specimens with this method and with iron-hematoxylin and found that the wet fixation and staining with the brilliant cresyl blue formula compared favorably with, and in some instances was superior to, the much more complicated iron-hematoxylin procedure.

FOREIGN

Acta Clinica Belgica, Brussels

8:279-384 (May-June) 1953. **Partial Index**

*Cardiac Catheterization in Chronic Pulmonary Conditions. A. Divry, L. E. Dumont and L. Lefebvre.—p. 279.
*Effect of Procaine Amide on Cardiac Arrhythmias. N. Boyadjian and F. Van Dooren.—p. 285.
Physiopathological Study of a Case of Mercurial Poisoning. F. Gregoire, J. Brauman, P. P. Lambert and C. de Heinzelen de Braucourt.—p. 298.

Cardiac Catheterization in Chronic Pulmonary Conditions.—The prognostic value of catheterization of the right side of the heart was studied in a series of seven patients undergoing pneumonectomy, lobectomy, or extrapleural pneumothorax. Respiratory function values in all the patients were within the limits usually considered acceptable for the surgical procedures contemplated. Catheterization was performed before the operation in five patients and after it in all seven. Results showed that the interventions had comparatively little effect on the resting pressures in the right side of the heart and that the moderate increases in right systolic pressure seen in patients with chronic pulmonary disease need not be taken as contraindications to operation, because they may disappear after the operation. Study of the pressure in the right side of the heart at rest has, therefore, no prognostic value. The investigation was extended to 28 patients selected at random for whom no operation was proposed. Five of these had moderately advanced tuberculosis, 15 far advanced tuberculosis, 4 pulmonary sclerosis with emphysema, and 4 silicosis. Systolic ventricular and pulmonary arterial hypertension was found in 6 of the 20 patients with tuberculosis, but in spite of the extent of their pulmonary lesions none showed right ventricular insufficiency. Increased pressures were found in the patients with silicosis, all four of whom had severely impaired, enlarged hearts. Decompensation was present in three, and the fourth had sequelae of infarction. The pressure was increased in only one of the patients with pulmonary sclerosis and emphysema. Incipient or moderate right-sided hypertension could not be detected in the electrocardiograms of the patients studied.

Effect of Procaine Amide on Cardiac Arrhythmias.—Study of 28 patients with various types of cardiac arrhythmia confirmed the efficacy of procaine amide as an antiarrhythmic agent. It may be given by intravenous injection at the rate of 1 cc. a minute under electrocardiographic control so that administration can be stopped as soon as the rhythm becomes regular. The quantity injected may be from 300 mg. to 1 gm. The patient should be kept lying down for from 30 minutes to an hour after the injection and additional electrocardiograms should be made every 10 minutes to verify the persistence of the regular rhythm. Oral administration is also possible, but given in the doses of from 4 to 5 gm. daily required for effective suppression of ventricular extrasystoles, it caused significant digestive disturbances in the patients treated. Discontinuance of the drug was followed by recurrent extrasystoles. The need for large doses of procaine amide and the rather short duration of its action impose certain practical limitations on its use. The generally benign character of ventricular and atrial extrasystoles makes its administration in these disturbances of questionable value. Intravenous injections of procaine amide may put an immediate end to an attack of recent atrial fibrillation, but when the fibrillation is of long standing, the action of the drug, even in large doses, is uncertain. Procaine amide is especially valuable in paroxysmal ventricular tachycardia; a dose of 500 mg. effectively stopped an attack in one of the patients in this series, and larger doses may be used when necessary. Supraventricular paroxysmal tachycardia is also relieved by procaine amide; in this condition, its action resembles that of acetylcholine, breaking a vicious circle and thus enabling the heart to maintain a regular rhythm after the drug has disappeared from the blood. No electrocardiographic disturbances were noted, either in the patients or in experimental dogs, when procaine amide was used in therapeutic doses.

Australasian Annals of Medicine, Sydney

2:1-106 (May) 1953

Epidemiology of Enteritis in Young Children. E. Singer and C. G. Ludford.—p. 5.
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Cerebral Angiomatous Malformations. G. C. Moss.—p. 67.
Clinical Detection of Enlargement of Spleen. C. R. B. Blackburn.—p. 78.
Thrombosis and Embolism in Chronic Rheumatic Endocarditis. V. J. McGovern.—p. 81.
Melorheostosis: Its Relation to Associated Conditions and Case Report. A. E. McGuinness, L. C. A. Watson, C. K. Lindsell and K. Inglis.—p. 84.
Phosphorus Poisoning with Cortical Necrosis of Kidney: Report of Two Fatal Cases. J. W. Perry.—p. 94.
Variation from Day to Day in Haemoglobin Value of Young Women. H. Cotter, H. O. Lancaster and R. J. Walsh.—p. 99.
Function of Adrenal Cortex in Rheumatic Fever. S. Wiener.—p. 103.

Dynamics of Circulation in Mitral Stenosis.—The 57 patients with mitral stenosis reviewed in this paper were selected from among 250 patients with rheumatic heart disease seen at the Institute of Cardiology, Royal Prince Alfred Hospital, in Sydney. Mitral stenosis was regarded as predominating on the following evidence: (1) a low rumbling diastolic murmur following the third sound or opening snap, usually with presystolic accentuation in patients with sinus rhythm; (2) a loud first sound at the mitral area; (3) a normal or, more frequently, a diminished left ventricular impulse to palpation; (4) absence of left ventricular preponderance in the electrocardiogram; (5) slight to moderate enlargement of the left auricle on fluoroscopy. The patients were studied by cardiac catheterization, with the use of a single or double lumen catheter. The great majority were in or near the basal state at the time of study. The patients had been placed on clinical grounds in the functional classes of the New York Heart Association. In the resting subject, as one passed from class 2 to class 4, the following changes in the dynamics of the circulation were found: (1) a decrease in valve area; (2) a rise in the arteriovenous oxygen difference and a fall in cardiac output and stroke volume—the oxygen consumption was unchanged; (3) a rise in pulmonary vascular pressure; (4) a rise in right auricular pressure. During exercise pulmonary vascular pressures rose out of proportion to the increase in cardiac output, which was determined chiefly by the laws governing mitral valve flow. On the whole there was a good correlation between the disability and the changes in the pulmonary circulation. On analysis of the data it became clear that patients with mitral stenosis fit into three hemodynamic stages. In the first stage the valve area is between the normal of 4 to 6 and 1.5 square centimeters. Pulmonary vascular pressures and cardiac output are within the normal range at rest; both rise on exercise to a degree determined largely by the severity of the stenosis. In the second stage the valve area is between 1.5 and 0.9 square centimeters. Pulmonary vascular pressures are raised at rest and rise even more on exercise. The cardiac output is maintained at rest by various compensatory mechanisms, the chief of which are probably right ventricular hypertrophy and a slightly raised filling pressure. During light exercise the cardiac output rises less than normally, and in some patients there is also a rise in filling pressure. It is during this second stage that rises in the pulmonary vascular resistance begin to appear. In the third stage the valve area is less than 0.9 square centimeter. Pulmonary vascular pressures are usually four times normal or even more, and the cardiac output at rest is low. The filling pressure has risen in the majority of these patients. During exercise pulmonary vascular pressures and filling pressures rise, but the increase in cardiac output is negligible. In most patients pulmonary vascular resistance rises greatly. Auricular fibrillation is not found usually before the second stage. A small number of patients with sinus rhythm resemble those with auricular fibrillation. The authors admit that the described studies cannot give information about many factors

that must influence physicians and surgeons in chosing the optimal time for mitral valvotomy; but it seems advisable to recommend this operation before the cardiac output has fallen and organic changes have appeared in the pulmonary circulation. This would correspond to the stage of dyspnea on light exertion.

British Journal of Dermatology, London

65:235-292 (July-Aug.) 1953

Ocular Pemphigus. R. E. Church and I. B. Sneddon.—p. 235.
Surface Skin Fat in Seborrhoeic Dermatitis. I. S. Hodgson-Jones, R. M. B. Mackenna and V. R. Wheatley.—p. 246.
Skin Disease in British Army in S. E. Asia: I. Influence of Environment on Skin Disease. P. H. Sanderson and J. C. Sloper.—p. 252.
Leishmanide: Report of Case. C. Berlin.—p. 265.
Lichen Sclerosus et Atrophicus in Young Subjects. T. Kindler.—p. 269.

British Medical Journal, London

2:237-296 (Aug. 1) 1953

Chronic Bronchitis: An Introductory Examination of Existing Data. N. Goodman, R. E. Lane and S. B. Rampling.—p. 237.
Place of Hospital in National Health Service. A. Daley.—p. 243.
Relationship of Alimentary Lipaemia to Blood Coagulability. H. W. Fullerton, W. J. A. Davie and G. Anastasopoulos.—p. 250.
Association Between Period of Gestation and Length of Menstrual Cycle. T. McKeown, J. R. Gibson and T. Dougray.—p. 253.
Acute Hypoxic Episode. M. S. Sadove, G. M. Wyant and L. A. Gittelson.—p. 255.
Pyrimethamine ("Daraprim") in Treatment of Vivax Malaria. G. Covell, P. G. Shute and M. Maryon.—p. 258.
Leprosy: Report on Four Cases. J. Rogers and D. G. Adamson.—p. 259.
Case of Leprosy Seen in Venereal Disease Clinic in Britain. J. O. Doyle.—p. 261.

2:297-352 (Aug. 8) 1953

Evolution of Binocular and Stereoscopic Vision in Man and Other Animals. W. Harris.—p. 297.
Aureomycin, Chloramphenicol, and Terramycin in Ophthalmology. A. Sorsby, J. Ungar and R. P. Crick.—p. 301.
*Breast-Feeding in Oxford Child Health Survey: II. Comparison of Bottle- and Breast-Fed Babies. A. Stewart and C. Westropp.—p. 305.
Future of Surgery in Senile Obliterative Arterial Disease. C. Rob.—p. 308.
Unusual Small-Intestinal Causes of Anaemia. J. E. Richardson and A. E. Flatt.—p. 311.
Three Cases of Small-Intestinal Neoplasm with Unusual Clinical Features. P. A. Rechnitzer and J. Blake.—p. 313.
Syndrome of High-Titre Cold Haemagglutination. M. G. Nelson and R. J. Marshall.—p. 314.
Continuous Succinylcholine Chloride with Pethidine in Abdominal Surgery. G. Herington and E. James.—p. 317.
An Unusual Case of Syphilitic Parkinsonism. K. G. Neill.—p. 320.

Breast-Feeding in Oxford Survey.—The progress of 580 babies in the Oxford Child Health Survey was studied in relation to feeding habits. At the age of one year the babies who were bottle-fed from birth were appreciably heavier than the babies who were completely breast-fed for five months or longer. They also showed signs of being slightly maturer. It is suggested that these differences are due to minor degrees of underfeeding among the breast-fed babies. To discover whether the accelerated growth and development in the bottle-fed babies was attended by any increased risk of ill health, the sickness records of the babies were examined. For three disease groups, namely gastroenteritis, bronchitis and bronchopneumonia, and otitis media and tonsillitis, there was no evidence that the duration of complete breast-feeding influenced the over-all infection rates. Gastroenteritis was comparatively rare so long as the babies were receiving nothing but breast milk, but it reached its maximum incidence in the weaning period and was especially common among babies who began to be weaned in the sixth month. Colds, which were most frequent in large households and households with several children of school age, were almost equally common among breast-fed and bottle-fed babies. That breast-feeding has advantages to both mother and child that will never show on a weight chart no pediatrician will seriously deny, but under conditions that prevail today the dangers of bottle-feeding are more potential than real. With artificial feeding now safe and easy, the slightest neglect of the special problems of nursing infants could produce a sharp popular reaction against breast-feeding.

Die Medizinische, Stuttgart

No. 27/28:897-936 (July 11) 1953. **Partial Index**

State of Cancer Research. H. Lettré.—p. 897.
*Obesity as Diencephalohypophysial Dysregulation. F. Kossmann and E. Pirrung.—p. 908.
Do Coronary Vasodilators Exert a Specific Effect on Myocardium? H. Lachmann.—p. 911.
Observations of Simultaneous Occurrence of Lymphogranulomatosis and Hemolytic Anemia. G. Hennemann.—p. 914.

Obesity as Diencephalohypophysial Dysregulation.—Of 24 obese women with adiposis of the trunk and of the extremities who were admitted to the medical clinic of the university of Homburg, Saar, the pathological obesity had become manifest after pregnancy ending in abortion or delivery in 10 and after menstrual disturbances in 9; one patient had a tumor of the pituitary, and another had been given *p*-acetylaminobenzaldehyde thiosemicarbazone (Amithiozone), which may exert an effect similar to that of cortisone. Physiological or pathological changes of the endocrine system thus were indicated in 21 of the 24 patients. Atrophy of the sex organs could be demonstrated on gynecologic examination in only 8 of the 9 women with menstrual disturbances, and the hypophysis was considered the cause of the obesity after abortion or delivery in 10. The authors believe that obesity in women between the second and fourth decade of life is caused endogenously by diencephalohypophysial dysregulation, while exogenous factors, such as polyphagia, play a secondary part only. This concept was supported by the results of the Staub-Traugott test that revealed pathological changes in the sense of a negative effect in 20 patients with a repeated elevation of the blood sugar level by 40 to 100 mg. per 100 cc. after the second oral dose of detxrose. Results of examination of the carbohydrate metabolism by insulin and epinephrine tests and of the water metabolism by Volhard's gravity test for renal function and by the water test after administration of an extract of the posterior lobe of the pituitary gland and after injection of thyroxin provided additional proof for the authors' concept. Passage of short waves through the region of the pituitary of the patients always caused an increase in the blood sugar level and an increase in granulocytes exceeding the physiological variation; the increase in the blood sugar level was considered as manifestation of a pathological reaction of the pituitary, while the increase in granulocytes was considered as manifestation of stimulation of the diencephalon. The weight of the anterior lobe of the pituitary is greater in women than in men; this, as well as the fact that the weight of the anterior lobe of the pituitary increases by 20% during pregnancy, may explain the predisposition of women to obesity. The increased incidence of obesity in the postwar period may be explained by the functional unity of hypophysis and diencephalon that makes it possible for hormonal dysfunction to be elicited by vegetative stimulation, and a diet deficient in protein may favor this development.

Doc. de Medicina Geograph. et Tropica, Amsterdam

5:97-192 (June) 1953. **Partial Index**

*Congenital Fibrosarcoma. H. Hartz and T. G. Tablante.—p. 98.
Histoplasmin Test in Surinam. W. A. Collier and A. A. de la Fuente.—p. 103.
Two Cases of Histoplasmosis on Farms Near Paramaribo (Surinam): Investigations into Epidemiology of Disease. A. Wildervanck, W. A. Collier and W. E. F. Winckel.—p. 108.
Some Aspects of Kwashiorkor. E. Janssen.—p. 128.
Chloromycetin Treatment of Salmonella Infections: Results Obtained in 100 Patients. L. P. Kian, H. Smitskamp, T. Thay and D. K. Wielenga.—p. 141.
Steatorrhea and Intestinal Circulation. C. D. de Langen.—p. 157.
Fight Against Lung Cancer. R. Korteweg.—p. 168.

Congenital Fibrosarcoma.—The case reported is that of a baby girl hospitalized at the age of two months with a tumor in the mastoid region that had been present since birth and that had rapidly enlarged. The skin covering the tumor was pale red and shiny and showed dilated veins. The consistency was elastic; the tumor could not be moved freely. As the tumor was growing rapidly, a provisional diagnosis of sarcoma was made, and extirpation was carried out. The tumor bed was treated with electrocoagulation, but the patient died seven

days after operation, with symptoms of meningoencephalitis several days before death. The tumor was classified as fibrosarcoma by reason of its structure and of the arrangement of the reticulin fibers and because of the absence of special structures or protoplasmatic differentiations, which would justify a diagnosis of neurosarcoma or of the not so rare rhabdomyosarcoma of the head or neck region. In one of the blocks of tissue, tumor tissue was found in a lymph node and in a lymph vessel. Since the tumor was present at birth and grew rapidly, a diagnosis of congenital fibrosarcoma seemed justified.

East African Medical Journal, Nairobi

30:217-266 (June) 1953

*Endemic Dental Fluorosis in Kenya: Preliminary Report. M. M. Williamson.—p. 217.
Preliminary Report on Dental Fluorosis in Kenya European Children. L. B. Nevill and W. Brass.—p. 235.
Nature and Classification of Onyalai. J. Wilkinson.—p. 243.
Intestinal Obstruction Due to Ascariasis. R. G. Romberg.—p. 251.

Endemic Dental Fluorosis in Kenya.—Williamson feels that the dental signs of fluorosis so far observed in the population of Kenya gives sufficient proof to warrant a fuller inquiry and survey on the following lines: (1) to check and analyze regularly all domestic water supplies, (2) to survey and map in detail endemic areas, (3) to undertake rock analyses for correlation, (4) to correlate the caries incidence with dental fluorosis in East Africa, (5) to publicize the possible serious effects of fluorides from a public health point of view, (6) to take adequate steps to reduce domestic water supplies to concentrations of less than one part per million, and (7) to investigate the possibility of skeletal changes in the indigenous population. Analysis of water supplies shows a predisposition toward high fluoride content. The geological structure of Kenya is such that one would expect high fluoride figures. Large areas of the country are covered by formations due to comparatively recent volcanic action. The surface waters percolate through the soil, in many areas consisting of high percentage of volcanic ash, and then pass through the weathered trachyte tuffs or lavas. Over 4,500 children and adults were examined in different parts of Kenya for signs of the varying degrees of mottled enamel. The degrees of dental fluorosis were classified according to Dean. It is important to note that the teeth are affected only if the ingestion of the fluoride takes place during the time of enamel calcification, that is, up to the age of 8 years, or about 12 if the third molars are to be included. Ingestion after this period then has a cumulative effect on the skeletal structure. The author believes that the medical profession in Kenya should take an interest in the effects of chronic fluoride intoxication. The following are indications of such intoxication: increased density of the bones, diminution of the medullary area, calcification of the ligamentous attachments, osteophytic growths, and exaggeration of the curvatures of certain of the long bones. Nearly 2,000 children with dental fluorosis were seen; the condition is endemic in Kenya and other parts of East Africa.

Edinburgh Medical Journal

60:305-340 (July) 1953

Arteriovenous Malformations of Head. J. Gillingham.—p. 305.
Formation and Operation of Bone Bank in Edinburgh. R. B. Duthie. —p. 316.
Late Results of Treatment of Thyrotoxicosis with Thiouracil Compounds. D. I. Manson.—p. 321.
Fatal Spontaneous Pneumothorax in an Asthmatic Subject. J. T. R. Russell and A. Macfarlane.—p. 331.
*Acute Necrosis of Liver Following Chloramphenicol Therapy. R. Salm. —p. 334.

Acute Necrosis of Liver Following Chloramphenicol Therapy.—The 5-year-old boy whose history is reported was hospitalized while in a delirious condition on June 11, 1951. Death occurred on the day following admission. The family physician stated that the child had been well until nine weeks prior to admission, when whooping cough developed for which he prescribed a single course of chloramphenicol. Unfortunately the total dosage has not been recorded, but presumably it was not higher than 5 or 6 gm. and was spread over about one week. The boy made a rapid recovery. A fortnight before admission jaundice with pale stools was observed and was regarded as infective hepatitis. Jaundice seemed to clear, and the stool became normal in color three days before hospitalization. In the early morning of the day of admission, the boy had a severe epistaxis followed by two attacks of vomiting. He ate a good breakfast, but at noon vomited again, partly bright red blood. Thereafter he became delirious. Autopsy was done 18 hours after death, and microscopic studies disclosed a virtually complete disappearance of the liver parenchyma, the tissues consisting of the somewhat condensed reticulum framework and other mesenchymal elements, while the bile capillaries had survived. Only after searching were some shadows of liver cells found in some areas. An interesting feature was cellular damage in the cortex of the brain similar to that observed in the basal ganglia in kernicterus.

Lancet, London

2:261-304 (Aug. 8) 1953

Evolution of Child Care. J. L. Henderson.—p. 261.
Assessment and Prognosis in Hemiplegia. G. F. Adams and S. G. McComb.—p. 266.
Apnoea for Bronchography in Children. M. E. Browne, K. W. Lovel, C. Raulin and J. P. Rickard.—p. 269.
*Disseminated Sclerosis: Assessment of Effect of Treatment on Course of Disease. N. D. Compston.—p. 271.
Position of Foot in Walking. M. Harty.—p. 275.
Fatal Infection by Chromobacterium Violaceum. P. H. A. Sneath, J. P. F. Whelan, R. B. Singh and D. Edwards.—p. 276.

Disseminated Sclerosis.—Compston points out that most published accounts of the results of treatment of disseminated sclerosis are based on the degree of disability before and after treatment. In a previous report in which he and McAlpine analyzed 1,582 cases of disseminated sclerosis in 414 patients, it was found that 1,221 ended in a remission, leaving little or no increased disability. The end-results of individual episodes are, therefore, a poor criterion of effective treatment. Compston feels that in assessing the effect of medical treatment in disseminated sclerosis the essential criterion is the prevention of fresh relapses. Disability by itself is insufficient evidence. Though ideally an untreated control group should be used for comparison with a treated group, it has been found possible to analyze treated groups by comparing the relapse rate before and after treatment. The results in 57 patients treated by administration of artificial pyrexia and arsenic and in 33 receiving large doses of antihistamine drugs were analyzed. The only firm conclusion that can be drawn from this study is that the administration of artificial pyrexia followed by arsenic, or of arsenic alone, and the administration of antihistamine drugs in high doses, did not, during the limited period of follow-up, alter the relapse rate after treatment as compared with that before treatment. In both groups, however, the treatment was in many cases begun after the disease had been in existence for some years. In both groups the average duration of the disease before treatment began was between seven and eight years. Treatment of any sort must obviously have the highest chance of success if started early, because of the tendency for symptoms once established to progress. But in the small number of cases in which treatment was begun during the first year of the disease there was no difference in the relapse rate between the two groups. A standard method of assessing the degree of disability, during a follow-up of at least five years, is suggested.

Medical Journal of Australia, Sydney

1:905-940 (June 27) 1953

Experience with Infectious Hepatitis at Royal Prince Alfred Hospital. S. Goulston.—p. 905.
*Hepatitis in Childhood: Histological Diagnosis. J. W. Perry.—p. 915.
Osteoarthritis of Hip Joint. F. Stonham.—p. 916.
Adrenals of Koala (Phascolarctos Cinereus) and Their Alleged Relationship to Eucalyptus Leaf Diet. A. Bolliger.—p. 917.

Histological Diagnosis of Hepatitis in Childhood.—Perry calls attention to the difficulty that sometimes arises in determining the cause from the histological picture in children with liver disease. He defines hepatitis as a nonsuppurative process char-

acterized by zonal necrosis and a cellular response predominantly of the nongranular type. The first two cases presented were in children with severe infectious hepatitis and the histological and clinical pictures were in agreement. The second case is noteworthy because it is likely that if the histological diagnosis is correct, this child almost certainly contracted the virus infection in utero. The third case is that of an infant who died soon after a premature delivery. Examination of the liver showed the histological appearance of nodular hyperplasia, indicating that the hepatitis had been progressing for some time in utero before precipitate delivery. However, diagnosis is rigidly histological, and in spite of the exclusion of syphilis and blood group incompatability it is devoid of proof. Two cases of galactose intolerance are mentioned in which the histological picture was that of chronic hepatitis. These demonstrate the flimsy structure of chronic hepatitis as a diagnosis, especially if it is too often reconciled with a virus etiology.

Minerva Pediatrica, Turin

5:265-304 (April 30) 1953. **Partial Index**

*Punch Biopsy of Liver in Infants: Personal Contribution. G. Sansone and F. De Mattei.—p. 265.
Importance of Radiologic Examination of Skull in Diagnosis of Cerebral Hemiatrophy: Early Radiologic and Stratigraphic Signs. P. Durand. —p. 271.
*Therapeutic Activity of Liver Extracts and Vitamin B_{12} in Children. A. Masi and S. Mori.—p. 290.

Punch Biopsy of Liver in Children.—Punch biopsy of the liver has become a valuable means of diagnosis of hepatic disease in children. The authors report their results in seven children, 1 to 14 years old. These children were given injections of vitamins C and K and barbiturates or opiates 24 hours before the intervention. After they had fasted for 12 hours, a Van-Silverman needle was inserted through a small incision into the 9th intercostal right space under local anesthesia. The procedure did not last more than eight seconds, and a 2 to 3 cm. specimen was easily obtained. The small lesion was not sutured but was protected with sterile gauze and an ice bag was placed on the area while the child was instructed to stay in bed for 12 hours. The histological specimens obtained were far superior to those the authors had obtained from other children by means of needle biopsy. The diagnosis of liver disease was confirmed in each child. There were no complications.

Liver Extract and Vitamin B_{12} in Children.—Liver extracts combined with vitamin B_{12} were used to treat 30 children with acute disease of the respiratory and cardiovascular apparatus. Atrophy, denutrition, asthenia, anorexia, and a pale color of the skin and mucous membranes were present in all these children. The disease had a tendency to become chronic despite the antibiotic, anti-infectious, and dietetic therapies that had been instituted. A first group of 15 infants, 3 to 15 months old, were given 1 gm. of liver extracts and 15 mcg. of vitamin B_{12} orally at breakfast every day for 20 to 25 days. The therapy was well tolerated, and there were no disturbances of the gastrointestinal apparatus. The infants gained appetite and weight. Their general condition improved, and the blood picture revealed an increased number of erythrocytes and higher levels of globulin and protein. Only a few of them, under six months of age, did not benefit from the therapy. The second group of 15 children, 2 to 15 years old, received 2 gm. of extracts of fresh liver and 15 mcg. of vitamin B_{12} intramuscularly every other day for 20 to 25 days. The injections were always painless and never caused allergic reactions. The cytochemical changes in the blood picture were superior to those obtained in the first group of patients. There was an increased number of reticulocytes and erythrocytes and higher levels of globulin and protein. The action of the two products was reciprocally enhanced. In fact, oral administration of vitamin B_{12} alone produces only an increase of appetite and, therefore, of weight, whereas when it is combined with liver extracts there is also a slow but progressive and beneficial modification of the blood picture.

Nordisk Medicin, Stockholm

49:893-926 (June 26) 1953. **Partial Index**

Fate of Certain Colloids in Organism After Parenteral Administration: Present Problem in Connection with Use of Colloidal Infusions. A. Grönwall.—p. 896.
*Combined Anesthesia with Curare in Cesarean Section. K. Bergquist, S. Lundin and L. Thorén.—p. 899.
Spinal Anesthesia in Cesarean Section. S. Genell, H. Marcus and N. Zippis.—p. 902.
Mucocele of Appendix. H. Rasmussen.—p. 908.
Pneumatosis Cystoides Intestinalis. C. Villaume.—p. 912.
Operative Treatment of Hallux Varus. H. B. Mygind.—p. 914.
Ambulant Method of Treatment of Fractures in Lower Extremities in Older Patients. J. Svastokoglou.—p. 916.

Combined Anesthesia with Curare in Cesarean Section.—Comparison of the results in the 45 cases of cesarean section under combined anesthesia consisting of local anesthesia and intravenous administration of Narkotal (a solution containing 0.11 gm. of the sodium salt of isopropyl-beta-bromallyl-N-methyl barbituric acid, 0.1 gm. antipyrine, and 0.1 glycerin in water) with curare and nitrous oxide since late 1950 with those in 56 cases of cesarean section under ether anesthesia since late 1949 shows no certain difference with regard to fetal mortality ascribable to the anesthesia. With regard to the combined anesthesia, however, Bergquist and his associates note the following advantages: for the mother, rapid anesthetization with prompt recovery, reduced hemorrhage, and reduced postoperative distress; for the infant, little or no risk of asphyxia; and, for the obstetrician, smaller doses of the anesthetic agent, with excellent muscular relaxation, facilitating operation. The authors caution that the use of curare calls for a team skilled in anesthesiology.

50:957-990 (July 9) 1953. **Partial Index**

*"Early Diagnosis" in Cancer of Breast. L. Kreyberg.—p. 957.
Parotid Tumors and Their Treatment. J.-E. Laage-Hellman.—p. 960.
Tumors of Salivary Glands. E. A. Mylius.—p. 962.
Relation Between Histologic Type and Clinical Development of Neurinomas. G. Thorsrud.—p. 966.
Incidence of Cancer of Breast in Women in Relation to Age, Marriage and Number of Childbirths. S. Rennaes and L. Holan.—p. 967.
Treatment of Plastic Induration of Penis. O. Dahl.—p. 969.
Relation Between Reiter's Syndrome and Gonorrhea Reflected in Some Cutaneous Symptoms. I. Ruikka.—p. 977.
Migraine and Pylorus Spasm. G. Andrén-Sandberg.—p. 977.

"Early Diagnosis" in Cancer of Breast.—Kreyberg says the reason for the depressingly low results in complete recovery in mammary cancer is in the first place that the tumor cells may have spread beyond surgical control before operation is carried out, even before diagnosis is made, and/or in the second place that the tumor cells are not sufficiently radiosensitive. He analyzes the expression "early diagnosis" and examines the usefulness of various definitions of the term, mainly to clarify criteria for the immediate recognition of cancer of the breast at a time when complete recovery is possible if the patient receives the best possible treatment. One definition of "early diagnosis" commonly used is diagnosis of a tumor still in stage 1, when it can be completely removed by mastectomy. Another attempt at a productive definition of "early diagnosis" is diagnosis immediately after the first symptom, whatever its nature, but even when the length of time between diagnosis and treatment is reduced to a practical minimum only about half the patients can count on living free from symptoms for five years. A third definition is diagnosis of a very small tumor. The author points out that these three most usual definitions of "early diagnosis" fail, the first one because the criteria are available only as a result of retrospective clinical analysis, the second and third because there are no criteria that enable all patients to recognize the tumor at a stage when certain or practically certain recovery can be counted on with the best methods of treatment at hand today. He knows of no other definition that makes this possible. On diagnosis about two-thirds of the tumors have metastasized and are at a stage when half the patients will die of their tumors. The tumors differ in degree of malignancy. Grade 1 tumors, while malignant, have a moderate malignancy; they are relatively highly differentiated and grow and metastasize slowly. Grade 3 tumors are highly atypical and metastasize rapidly. Between the two extremes are grade 2

tumors. Differentiation between the two extreme groups is comparatively simple. The classification of the middle group is difficult and gives the greatest room for individual evaluation. For the tumors in group 1 a slightly earlier or slightly later diagnosis does not play an important part, as the tendency to metastasize is small. Tumors of grade 3 have often metastasized before they are recognizable by present methods of examination. In tumors of grade 2 the time factor is of essential significance. Statements to the effect that "with early diagnosis of cancer of the breast over 90 per cent are cured" depend on retrospective analysis of a treated material in which patients determined as having early cases are selected on the basis of knowledge not available until after the patients are operated on and treated. The possibility of recovery is around 50%, with a possible maximum of 60%. The inherent malignancy of the cancer is the most decisive factor. It is, however, the right and duty of every physician to take an optimistic view with regard to the individual patient, as cancer of the breast like many other diseases can bring happy surprises. Every one who has followed the treatment of mammary cancer will know of cases with favorable outcome in spite of a rather hopeless outlook at the start, with both highly atypical primary tumor and metastases.

50:991-1028 (July 16) 1953. **Partial Index**

*Causes of Premature Births and Causes of Deaths in Premature Infants. U. Rolfsen.—p. 994.
Pacifiers and Dental Caries. P. Selander and A. Syrrist.—p. 1003.
Myocarditis in Infants. R. Kostmann and M. Pehrson.—p. 1012.

Causes of Premature Birth and Causes of Death in Premature Infants.—From his analysis of 591 cases of premature birth at the Bergen Women's Clinic, Rolfsen concludes that premature birth may depend on the complications of pregnancy, maternal illness, and twin pregnancies and that there may also be a habitual or hereditary tendency toward premature delivery. Clinically demonstrable disease as the cause of death in premature infants seemed to account for about 20% of the cases; in 80% the cause of death was more or less uncertain. In cases with cephalic presentation and small fetuses short duration of labor tended to be harmful. In the first week of life there was a direct ratio between viability and weight. The death rate declined as the infants attained normal weight. After reaching normal weight the infants presented about the same mortality as full-term infants. Deficient development thus seems to be the main cause of death among premature infants. Mortality among premature infants should be combated by guarding against the factors responsible for early delivery. More thorough maternal control is necessary and more extensive hospitalization from the 28th week for diseases of pregnancy is desirable. The newborn premature infant requires special treatment by well-trained personnel.

Prensa Médica Argentina, Buenos Aires

40:1987-2068 (July 31) 1953. **Partial Index**

Apoplectic Gallbladder: Tactics of Ectomy. R. Finochietto and E. A. Bilesio.—p. 1987.
*Treatment of Leprosy: Experience with Isonicotinic Acid Hydrazid: Preliminary Report. L. Argüello Pitt and C. A. Consigli.—p. 1996.
*Neoplasic Cells in Bone Marrow. M. Kleimans.—p. 2006.
Meningococcic Meningitis. Treatment with Sulfa Drugs and Penicillin. C. A. Bonetti Dupont, V. C. Laurini and J. C. Sohle Cateula.—p. 2013.

Isoniazid (Isonicotinic Acid Hydrazid) in Leprosy.—Leprosy and tuberculosis are related diseases. Their causal agents are mycobacteria of similar morphological and staining characteristics. Normal persons who in the past had lived with patients with leprosy can be immunized against leprosy by the BCG vaccine. Sulfones and *p*-acetylaminobenzaldehyde thiosemicarbazone seem to be promising in the treatment of either disease. However, these drugs cannot be given for a long period of time, because of certain unfavorable effects and intolerance. On the basis of the good results of the administration of isoniazid in tuberculosis, the authors resorted to this drug in the treatment of 12 adult patients with leprosy. The patients had skin lesions either moderate or marked with histological characteristics of the type "L" or "Ind" of the disease. All were bacilliparous. The drug was given in daily doses of 100 mg. for 15 days after which the daily dose was fixed at 200 or 300 mg. administered in three fractional doses. This is a preliminary report with results obtained to date. The patients had had treatment for six or seven months and are still under treatment. The drug was well tolerated. The general condition of the patients and of the skin lesions was greatly improved. The clinical improvement was not associated with marked bacteriological changes. Diminution of the number of bacilli in smears of material taken from the skin or from the nasal mucosa and morphological changes of the bacilli were observed in rare cases only. The authors conclude that isoniazid is indicated in leprosy, especially in anemic persons with leprosy who had had sulfones or *p*-acetylaminobenzaldehyde thiosemicarbazone and cannot receive any more of these drugs because of intolerance or harmful effects of the drugs. They advise giving alternately sulfones, *p*-acetylaminobenzaldehyde thiosemicarbazone, and isoniazid.

Neoplastic Cells in Bone Marrow.—The types of cancer that most frequently produce bone marrow metastases in the form of neoplasic cells are cancer of the prostate, lung, and breast and the neuroblastomas. The author reports six cases. He emphasizes the value of the examination of material taken, by sternal puncture, from the bone marrow for the diagnosis of cancer. The finding of malignant cells in the bone marrow confirms the diagnosis of cancer. This type of metastasis indicates that there exist metastases in several other viscera that had not been observed by clinical or roentgen examination. When an operation is planned, this type of metastasis shows that the patient is beyond surgical intervention. Neoplasic cells in the bone marrow can be identified by their morphology. They are larger than normal. The structure and staining properties are different than those of normal cells. The nucleus is very large. The nucleus-cytoplasm index is increased. Frequently there is mitosis. The nucleoli are abnormal in number, size, form and staining character. The cytoplasm is either abundant or scanty, but always basophilic, frequently vacuolated, and sometimes with inclusions. There are pathological mitoses. In the cases reported by the author, the neoplasic cells in the bone marrow were abundant. Two of the patients had cancer of the lung, one of the lung and liver, and three of the prostate. The patients were observed in very advanced stages of cancer.

Presse Médicale, Paris

61:959-978 (July 4) 1953. **Partial Index**

Acute Porphyria with Urine Containing Porphyrins with 3, 5, and 7 Carboxyls in Addition to Uroporphyrin 3. R. Garcin, A. Escalier, A. Gajdos and others.—p. 959.
*Heparin in Treatment of Arteritis of Lower Limbs. M. Remy, P. Cadiot and C. Pernot.—p. 961.
*Fundic Gastrectomy. L. Leger and F. Kanoui.—p. 962.

Heparin in Treatment of Arteritis of Lower Limbs.—Excellent results were secured by intra-arterial injections of heparin in three patients with acute thromboses superimposed on chronic arteritis of the lower limbs; amputation, which had been considered inevitable in two of the patients, was averted. Heparin therapy in these cases proved so effective that it was tried in 15 patients with severe arteritis accompanied by trophic disorders and necrotic lesions. Marked regression of functional disturbances, with an increase in the local temperature and sometimes in the oscillometric index, was obtained in nine of these; three were not benefited, probably because the site of the obliteration was particularly disadvantageous; and in one who showed improvement after three injections, treatment unfortunately had to be abandoned. Intra-arterial injections, preferably into the femoral artery directly above the obstruction, are essential; they may be given alternately with intravenous injections in acute cases, but when the intravenous route alone is used, the drug is largely ineffective regardless of the dosage given. A total of from 400 to 500 mg. may be given daily at the outset in acute cases, with a gradual reduction in amount as improvement progresses. Treatment may be supplemented with procaine and procaine amide (Pronestyl) hydrochloride, also administered intra-arterially, when necessary. A single intra-arterial injection daily, without intravenous administration, is usually sufficient in less severe cases; from 8 to 12 injections of 100 mg. each may be given

in such cases and the series can be repeated if necessary. The results obtained by the use of heparin are usually more pronounced, rapid, and lasting than those obtained by other methods.

Fundic Gastrectomy.—French and American surgeons, working independently, have proceeded along similar lines in their efforts to improve the surgical treatment of ulcerous disease by resecting as much of the acid-secreting area of the stomach as possible. The method developed by the authors removes the whole of the fundus and the vertical segment of the corpus contiguous to the greater curvature, leaving a gastric tube, not much larger than the esophagus, along the lesser curvature. The pyloric antrum, into which the tube opens, is left intact and pyloric functioning is preserved to the maximum because the vessels of the lesser curvature and its sympathetic nerve supply (the pneumogastric nerves) are respected. This procedure has been in use for several months, and its results will be reported as soon as the follow-up period warrants it. Investigation of the literature a posteriori showed that a similar method, proposed by Connell in 1929, was studied experimentally by him in 1951. Wangensteen's recently developed tubular gastrectomy resects the whole of the greater curvature but leaves the lesser curvature and the adjacent portion of the stomach intact; it is completed by a pyloroplasty. Arnous and Gibert advocate a partial resection of the fundus combined with a gastroenterostomy as a means of reducing hydrochloric acid-pepsin secretion, thus independently duplicating one of Wangensteen's earlier procedures. Postoperative determinations of gastric acidity show that most operations directed against ulcerous disease contribute to a reduction in acidity by permitting an intragastric reflux of alkaline secretions. Substantial reduction of acidity followed fundic gastrectomy in three of five patients operated on by the authors; in the fourth, the preoperative level was not significantly high; and in the fifth, whose hospital stay was prolonged by a postoperative pulmonary suppuration, repeated determinations showed gradually increasing acidity after an initial decline. Further study and a longer follow-up are needed to determine the definitive effect of this procedure on gastric acidity. Mediogastric stenosis, for which no explanation can be offered, sometimes occurs as an early postoperative complication of fundic gastrectomy, regardless of the method used.

61:979-1000 (July 8) 1953. **Partial Index**

How Does Sodium Salicylate Act? F. Coste, M. Bourel, F. Delbarre and R. Weissenbach.—p. 979.
Hormonal Hepatic Steatosis in the Depancreatized Dog and Its Prevention by Vagotonin. D. Santenoise, G. Albot, M. Corteville and R. Thévenot.—p. 982.
*Needle Biopsy of the Kidney. P. Payet, P. Pene, R. Camain and others.—p. 989.
*Clinical Trials of Treatment of Eczema and Pruritus with Local Applications of Hydrocortisone Acetate. E. Sidi, J. Bourgeois-Cavardin and G. Plas.—p. 992.

Needle Biopsy of Kidney.—Needle biopsy of the kidney is a delicate procedure requiring skill and experience. It often furnishes valuable diagnostic information and may be used with safety in patients with various renal disorders. Transient macroscopic hematuria in two patients and signs of shock in a third were the only complications noted in a series of 55 renal biopsies; two patients had a slight rise in temperature the evening after the procedure, and four others had an accelerated pulse rate in the first two hours. Successful performance of the biopsy was followed by microscopically detectable hematuria during a 48 hour period showing that penetration of the kidney had been achieved. All patients were kept in bed for 24 hours after the biopsy and were given antibiotics and coagulant therapy for 48 hours. Renal biopsy may provide the solution to difficult diagnostic problems; in one of the authors' patients, a 40-year-old man with hematuria, a large right kidney, and moderately impaired function, biopsy eliminated the suspicion of cancer and established a diagnosis of hematuric nephritis. Histological study of biopsy specimens facilitates early diagnosis of renal tumors, especially cancer. Appropriate therapeutic measures can also be more easily instituted when the condition of the renal tissues has been accurately determined. Contraindications are numerous; needle biopsy of the kidney should not be attempted in the presence of renal or perirenal suppuration, hydronephrosis, and renal tuberculosis or even when the kidney is polycystic. The technical difficulties encountered in carrying out the procedure are greatly increased by the renal atrophy characteristic of certain conditions.

Local Applications of Hydrocortisone Acetate in Eczema and Pruritus.—Hydrocortisone acetate (Compound F) ointment in concentrations of 1 and 2.5% was used in treating 48 patients with various forms of eczema and pruritus. Hospitalized patients received daily application; all others were treated two or three times a week at the office. Patients with symmetrical lesions were selected for treatment whenever possible so that the effect of the hydrocortisone acetate ointment could be compared with that of the base or of an ointment whose action was already known, such as Dalibour ointment. Very little was needed to secure a clinical effect; 22 tubes of ointment containing 5 gm. each were enough for six weeks' treatment for all 48 patients. Light friction to increase absorption was used in applying the ointment, after which the surface was left either uncovered or protected by a fine gauze. Prompt and striking relief was obtained in cases of localized pruritus. Successive applications were followed by more prolonged periods of sedation, so that treatments could eventually be spaced at intervals of as much as four or five days without discomfort. Premature discontinuance of the treatment, however, was followed by renewed pruritus. The best effect was obtained with the 2.5% ointment. Certain chronic and refractory eczematous lesions were also greatly improved or cured; edema and oozing disappeared, and, after a period of desquamation, the skin recovered its normal smoothness, suppleness, and color. Improvement was usually noted within 48 hours, but treatment was continued for several weeks even after apparent cure because recurrence almost always followed if application of the ointment was discontinued too soon. Comparison of the control lesions and those treated with hydrocortisone ointment showed that, while the control lesions were sometimes benefited by the ointment base or the other preparations used, improvement in those treated with hydrocortisone acetate ointment was always greater and usually incomparably so. Tolerance for the ointment was uniformly good; it had no cosmetic disadvantages; and no contraindications to its use have yet been established.

Rivista di Ostet. e Ginecologia, Florence

8:281-360 (May) 1953

Biochemical Investigation of Corpus Luteum and Placenta. M. F. Jayle and O. Crepy.—p. 282.
Radiological Investigation of Sella Turcica in Primary Amenorrhea. P. L. Bianchi.—p. 292.
*Trichomoniasis Vaginalis: Clinical, Bacteriological, and Anatomicopathological Study (Continuation and Conclusion). G. B. Candiani.—p. 301.

Treatment of Trichomoniasis Vaginalis.—Treatment of Trichomoniasis vaginalis has always aimed at a specific action on the Trichomonas and the other bacteria that often accompany this condition. However, since it is an altered biological state of the vagina that is favorable to the development of the flagellate, the specific treatment caused the Trichomonas to pass from a phase of pathogenicity to one of saprophytism with an almost asymptomatic picture which was erroneously interpreted as a period of temporary recovery. The treatment should first aim to restore the vagina to a normal biological state and then to influence the flagellate. In addition, since a previous study (*J. A. M. A.* **152:**287 [May 16] 1953) revealed that the pathogenicity of the flagellate is linked to a state of deficient estrogen secretion, the function of the gonads should always be investigated in patients with this infection, and hormone therapy should be instituted. Estrogens, mainly synthetic and of the stilbene series, should be administered, especially to patients with uterine hypoplasia and to those whose ovaries have been removed. The author's in vitro and in vivo studies revealed that thymol is effective on the protozoan but not on the vaginal flora. He, therefore, combined thymol with oxytetracycline (Terramycin) to potentiate the elective action of the former by sterilizing the coexisting flora. The new product was prepared in the shape of a small capsule, each capsule

containing 5 cg. of thymol, 10,000 mg. of oxytetracycline, 10 drops of 1% procaine (to avoid a burning sensation when the capsule was applied) and gelatin. One capsule was introduced into the vagina of pregnant and nonpregnant women with this infection every evening for from three to eight evenings. The author obtained good results in 146 patients who were treated with this preparation and concurrent administration of small doses of synthetic estrogens. He secured an immediate recovery in all the patients. The flagellate and the symptoms disappeared in all. A follow-up one to three months later revealed a definitive recovery in 128 of the patients.

Schweizerische medizinische Wochenschrift, Basel

83:687-706 (July 25) 1953. **Partial Index**

Diagnosis and treatment of Fungus Diseases of Lung. T. Wegmann. —p. 687.

Some Actual Problems of Accident Medicine in the Field of Ophthalmology, Based on Experiences of Swiss Accident Insurance Institute (Concluded). F. Lang and J. Schürmann.—p. 689.

*Significance of Thrombocytes in Allergic Processes: I. Communication: Reduction in Number of Thrombocytes in Vivo After Exposure to Allergen. H. Storck, P. Bigliardi, H. Brenn and R. Hoigné.—p. 692.

Thrombocytes in Allergic Processes.—Using Feissly and Lüdin's technique, the number of thrombocytes in the peripheral blood of 449 patients and healthy control persons was counted with the phase microscope before and within half an hour, one hour, and one and a half hours after they had been given small doses of various drugs (one-fourth to one tablet by mouth or one-tenth to one-half of an ampul by injection). The maximum increase or reduction in the number of thrombocytes was expressed in percentage of the initial value. Of the 449 persons, 70 had a history of drug allergy, and their hypersensitiveness to the drug was manifested clinically by urticaria, eczema, rash, purpura, anemia, agranulocytosis, and symptoms of shock, which disappeared when the drug was discontinued and reappeared on repeated exposure to the drug. In these 70 persons, the number of the thrombocytes was, as a rule, reduced by 15% or more of the initial value within one and a half hours after the administration of the test dose of the drug. In the 379 persons who were not sensitive to the drugs tested, the number of the thrombocytes was increased, or as a rule there was less reduction. Occasional or repeated reduction in the number of thrombocytes occurred with a few drugs in persons without clinically demonstrated allergy. Statistical evaluation of the changes in the number of thrombocytes showed significant differences in that in the presence of drug allergy the mean values were found between −22% and −28%, while in the absence of hypersensitiveness to the drug the mean values were between +11% and −5%. Control counts of thrombocytes carried out in the morning on the empty stomach without exposure to the drug showed mean values of −1% in 204 persons and −5% after a nonallergenic test breakfast in 21. The behavior of the thrombocytes can, therefore, be used as a test for clarifying a possible drug allergy (thrombopenic index). When the results of the thrombocyte counts were compared with those of leukocyte and eosinophil counts, it appeared that the response of the thrombocytes was more pronounced and more specific than that of the leukocytes and eosinophils, and the same applies to the results of the thrombocyte reduction test as compared to those of cutaneous tests. In the individual case, sensitization is suggested with high probability by a pronounced reduction in the number of thrombocytes, but critical comparison with history and clinical symptoms always is necessary.

South African Medical Journal, Cape Town

27:557-576 (July 4) 1953. **Partial Index**

Hereditary Haemorrhagic Telangiectasia: Report of Bantu Case. A. M. Theron.—p. 557.

*Sporadic Cretinism in One of Fraternal Twins. T. James.—p. 562.

*Use of Noradrenaline in Acute Hypotensive States. M. B. Barlow, H. Ginsberg and J. Gottlich.—p. 564.

Sporadic Cretinism in One of Fraternal Twins.—The occurrence of sporadic cretinism is reported in only one of a pair of dizygotic twins. This condition is rare in multiple births; only four other comparable case reports were found by the author in the literature. The first case was published in 1914; 20 years passed before two more cases were published in one paper, and this was followed a year later by a fourth. The author's patient was a girl, while her twin was a boy. After the diagnosis of cretinism was made in the girl at the age of six months, ⅛ grain (8 mg.) of dried thyroid extract was given twice a day. The response to this treatment was gratifyingly rapid. After 28 days of treatment, the dose of the thyroid medication was increased to ⅛ grain given three times a day, and two months later to ¼ grain (15 mg.) twice a day. Comparable measurements of head, chest, abdomen, and length of the twins showed a striking approximation allowing for any expected differences that are usual between fraternal twins. At the age of 14 months, on a dose of ½ grain (30 mg.) of thyroid extract twice a day, the patient conducted herself in every way like a normal child. The degree of osseous developmental retardation in the hypothyroid twin reported on by the author was not assessed, and so the opportunity to determine whether the normal twin's thyroid hormone was adequate in utero for its defective twin's intrauterine metabolism and growth was missed. There is retrospective speculation whether the normal twin's thyroid gland was adequate for both, up to the time of birth when the defective twin would begin to develop its hypothyroidic state, and then it would be fair to say that the cretinism is congenital. The fundamental reason for sporadic cretinism in one of the author's pair of binovular twins could be either a genetic deficiency or that the inductive stimulus for the differentiation of the gland from its substrate was lacking or subliminal.

Use of *l*-Arterenol in Acute Hypotensive States.—A 4 cc. ampul of *l*-arterenol (Levophed) dissolved in 1,000 cc. of isotonic sodium chloride solution or dextrose in water was given by intravenous infusion to 21 surgical patients with acute hypotension. Five of the 21 patients were in such severe shock that any thought of operative interference was out of the question. On a *l*-arterenol infusion the condition of all these patients improved sufficiently for operation to be performed. All five patients survived for 12 hours. Two died after 12 hours from their original injuries, one died eight days later, and two survived. In nine patients acute hypotension occurred during the operative procedure. Three of these nine patients were given *l*-arterenol during the surgical intervention only, the other six received it during the postoperative period. All survived the operation, but two died subsequently because of their surgical condition. The remaining 7 of the 21 patients received *l*-arterenol as a treatment for acute hypotensive states not associated with anesthesia. In this group three patients died, two from pulmonary embolism and one from cardiac failure associated with severe toxemia. In these patients the blood pressure was well maintained by the *l*-arterenol until the time of death. Of the remaining four patients, one had severe burns and was in a hypotensive state for two days after injury despite adequate intravenous therapy. He was given *l*-arterenol for 24 hours, after which time his blood pressure was maintained at a satisfactory level. Two patients collapsed some days after surgical intervention and the cause of the collapse was not ascertained, but both recovered on *l*-arterenol infusions. In all patients with acute hypotension treated with *l*-arterenol the immediate results were dramatic. The blood pressure always rose within a few minutes after the institution of the drug. In this respect, the effect of *l*-arterenol was much more reliable than that of any other pressor drug. In addition it is less toxic. The authors caution against the administration of *l*-arterenol if the blood pressure cannot be continuously watched, for it may rise to dangerously high levels within a few minutes. Its use is thus only practicable where trained personnel are available day and night to take blood pressure readings and to adjust the infusion accordingly. Treatment with *l*-arterenol is purely symptomatic; therefore, its great use is in acute hypotensive conditions to raise the blood pressure until the cause of the sudden hypotension can be treated by blood transfusion or other appropriate measures.

BOOK REVIEWS

Emotional Factors in Skin Disease. By Eric Wittkower, M.D., and Brian Russell, M.D. With contributions from Peter Edgell, Desmond Irwin, and John Slorach. Psychosomatic Medicine monograph. Forewords by Dr. R. M. B. MacKenna and Professor D. E. Cameron. Cloth. $4. Pp. 214. Paul B. Hoeber, Inc. (medical book department of Harper & Brothers), 49 E. 33rd St., New York 16, 1953.

This timely book makes available to the medical profession an authoritative analysis of an important subject. It is unique in that it represents the joint endeavors of men trained in two different specialties, psychiatry and dermatology. The authors have performed an excellent job in collating and analyzing the case histories recorded in this volume and in attempting to correlate dermatological, pathological, and physiological data with the findings of the psychiatrists. At present many of the most fruitful lines of research in dermatology are those that can best be undertaken in the laboratory in order to combine chemical knowledge with scientific achievement. There is an overemphasis, however, on chemical and pathological findings as the keys to cutaneous etiological factors and diagnosis. Many of these laboratory findings are inappropriate and even misleading. The practitioner and the specialist must always bear in mind that the skin includes both soma and psyche, and the ills of the surface cannot always be healed unless the mind is relieved and the spirit emancipated. It must be emphasized at the same time, however, that proper local and systemic measures are still of primary importance in dermatological therapy.

This volume represents the combined efforts of five colleagues to point out that the skin stands between the person's inner and outer worlds and that a great interplay of forces is reflected in its functioning. The book consists of two parts, a general part dealing with the development of the skin, the function of the skin, and the neuroanatomy and physiology of the skin, and a second part dealing with specific disorders. A chapter on investigation and management of patients with skin diseases should aid the physician in handling certain cases. Although many important skin diseases with psychosomatic components have not been discussed, the omission is due to the fact that the authors' case material concerning these disorders was not large enough to draw conclusions that allow generalization. The diseases that are described are adequately presented and convincingly illustrated by selected case studies. Some of these patients obviously required deeper exploration from a psychoanalytic standpoint, but the presentation was suitable for this type of combined study.

This book can be read profitably, inasmuch as the authors have assembled a stimulating and significant series of interpretations of the complex changes that take place in the skin. It is a pioneer work that should stimulate both the dermatologists and the psychiatrists who will carry out future research in this field.

Man's Back. By Theodore A. Willis, M.D., F.A.C.S., Consulting Orthopedic Surgeon, U.S.P.H.S. Hospital, Cleveland. Cloth. $9.50. Pp. 161, with illustrations. Charles C Thomas, Publisher, 301-327 E. Lawrence Ave., Springfield, Ill.; Blackwell Scientific Publications, Ltd., 49 Broad St., Oxford, England; Ryerson Press, 299 Queen St., W., Toronto 2B, 1953.

This monograph has resulted from the personal experiences of the author in dealing with lesions of the back. Because of the inaccessibility of the deeper parts to direct physical examinations and the complexity of the anatomic arrangements, differential diagnosis becomes quite a challenge. An attempt has been made to utilize not only the perfection of roentgenray technique but also the practical available knowledge of physiology and biochemistry. Enthusiasm for each new method of therapy has been properly restrained, yet worth-while associated material has been salvaged and included in the text. Chapter 1, dealing with embryology of the back, is particularly well written and stands out as an excellent example of detailed work presented in a simple, concise, and readable manner. A minor criticism might be raised in the discussion of gout on page 111, in which instance no mention is made of the newer drugs. It might have been better to have suggested a study of the serum uric acid rather than the time-honored, and often misleading, blood uric acid. The book is printed on good stock, and the roentgenograms have reproduced unusually well. Double column arrangement and a large-sized type are also advantageous features. This monograph can be recommended to anyone interested in the study of a patient with an aching back.

Clinical Investigation: A Manual for Practitioners and Students. By E. H. Stokes, M.D., Ch.M., F.R.A.C.P. With foreword by G. E. Beaumont, M.A., D.M., F.R.C.P., Physician to Middlesex Hospital. Cloth. £5/5/-. Pp. 628, with 345 illustrations. Angus & Robertson, Ltd., 89 Castlereagh St., Sydney, N.S.W., Australia; 48 Bloomsbury St., London, W.C.1, 1953.

Although the title "Clinical Investigation" suggests a guide for those involved in research at a clinical level, this is not the author's meaning. The book is rather what most physicians in America would call a textbook on physical diagnosis. As such it is interesting because of its profuse illustrations. In a sense this characterizes the book. It is particularly concerned with that part of physical diagnosis based on observation with the eyes. More mechanical techniques, such as percussion, are less extensively illustrated or described. The reader gains the impression that an experienced and canny observer has distilled long observation into a concise and sound summary. As such it presents a satisfactory text for a considerable part of physical diagnosis.

Arzneimittel-Synthese. Von Professor Dr. H. P. Kaufmann, Direktor des Instituts für Pharmazie und chemische Technologie der Universität Münster. Cloth. 87 marks. Pp. 834, with 26 illustrations. Springer-Verlag, Reichpietschufer 20, Berlin W. 35 (West-Berlin); Neuenheimer Landstrasse 24, Heidelberg; Göttingen, 1953.

This reference work provides a meeting ground for both the pharmaceutical chemist and the pharmacologist. The author, as did Frankel before him, has carefully blended information on the important steps of synthesis and structure-activity relationships among the members of the many groups of synthetic drugs now available. Thus the reader may comprehend the limitations imposed in drug manufacture on the types of derivatives that could be available and what alterations in pharmacological properties and side-effects might follow from a given modification of chemical structure. The author has had 30 years' experience teaching pharmacy students in German universities and has made numerous investigations in the field, especially in the study of neuropharmacological agents. Much emphasis is placed on this group of drugs, particularly on the synthesis and properties of the local anesthetics that have been derived from cocaine. The scope of the book may not fit in exactly with the interests of American pharmacologists. Although relatively little material on diuretics or drugs for cardiac patients is presented, a thorough discussion of vitamin and steroid synthesis and other topics from the German patent literature is provided. The book is divided into sections according to organ systems. Secondary classification is usually on a physiological basis, and detailed separation is made by chemical structure. This arrangement, though admittedly not ideal, makes the book easily usable by readers with either a chemical or a biological orientation. Each section is preceded by a short review of the physiology and anatomy of the system to be discussed. A list of significant European and American patents is provided. Both bibliography and index are detailed and well organized. A book that is of such value in integrating the work of pharmaceutical chemists and pharmacologists is a welcome addition to the literature of medicinal chemistry.

These book reviews have been prepared by competent authorities but do not represent the opinions of any official bodies unless specifically so stated.

A Clinical Approach to Children's Rorschachs. By Florence Halpern, Ph.D., Assistant Professor of Clinical Psychology, New York University College of Medicine, New York. Cloth. $6. Pp. 270. Grune & Stratton, Inc., 381 Fourth Ave., New York 16, 1953.

In this book the author has attempted to communicate the insight she has gained, through her vast experience, in the interpretation of children's Rorschach test records. She has also made some significant contributions to a theory underlying the relationship between Rorschach test factors and developmental trends.

The book begins with a description of differences in test administration for the preschool and school age child and contrasts these with the procedure for adults. The author postulates three developmental levels that she feels are clearly delineated in children's Rorschach test records. These levels are 2½ to 4 years, 4½ to 6, and 6 to 10. The various test factors of area, determinants, content, etc., are discussed with regard to the manner and frequency in which they are manifested on each of these levels. Each of the 10 stimulus cards are then described in terms of the qualitative reactions that are characteristic of certain types of children as well as those considered normal for each of the developmental levels. The basic personality factors of self-concept, identification, anxiety, defense mechanisms, and ego strength are discussed in their theoretical aspects, and an attempt is made to show how their development and dynamic structure can be studied in children by means of the Rorschach test. The author has also tried to establish age patterns of characteristic Rorschach test responses that can be considered normal for each of the three developmental levels.

Most of the book is devoted to the means of detecting good adjustment, emotional disturbance, neurosis, schizophrenia, organic disorder, and mental retardation in children's records. Forty sample Rorschach test records are included to illustrate these categories. The scoring method used by the author appears to follow Klopfer, and her theoretical hypotheses and qualitative interpretations seem to be within the psychoanalytic framework. The book is intended for advanced students of the Rorschach test and practicing clinical psychologists. It is one of the best pieces of research that has been done in the area of child Rorschach interpretation, but it suffers from the lack of statistical and experimental data to corroborate the author's theoretical and clinical hypotheses. She does not state the exact way in which she arrived at her age patterns, but they are in general agreement with the norms established in the more objective studies like those of Ames and others. This is not the strong point of the book, however. Probably of greatest value to the clinician are the hypotheses offered for the clinical and developmental meaning of the various Rorschach test patterns and responses. But since this section is the most lacking in statistical and objective corroboration it is the part that must be most critically appraised by the individual reader.

The limitation of this study is recognized by the author herself, and thus she says that the inferences that are drawn concerning the meaning of certain responses and the significance of certain test factors must be considered as "working hypotheses." On the whole, the book is well written and should be of great interest to anyone concerned with the interpretation of the Rorschach tests of children.

Surgical Forum: Proceedings of the Forum Sessions, Thirty-Eighth Congress of the American College of Surgeons, New York City, September, 1952. Surgical Forum Committee: Owen H. Wangensteen, M.D., F.A.C.S., Chairman, and others. Cloth. $10. Pp. 716, with illustrations. W. B. Saunders Company, 218 W. Washington Sq., Philadelphia 5; 7 Grape St., Shaftesbury Ave., London, W.C.2, 1953.

This series of articles contains 129 excellent papers prepared by nearly 350 authors and represents the most recent studies and advances in surgical technique in this country and in Canada. There are 23 excellent articles on the stomach, esophagus, and intestines; 34 on the heart and blood circulation; many fine studies of water balance and electrolytes; and several articles each on plastic surgery, thermal injuries, cancer, shock, gynecology, obstetrics, and anesthesia. This volume represents the current results of the studies in basic medical sciences as related to surgery. The material contained in it extends our knowledge of the pathological physiology of disease. On it will depend much of our future therapy.

In many instances the articles that appear in the "Surgical Forum" make even the most modern textbook obsolete, for it is impossible for the standard textbook to keep abreast of all the new work that is being done constantly in these experimental fields. The book is well edited and printed in excellent type on good quality paper. It is liberally illustrated with photographs, drawings, and charts. It is exceptionally well indexed. This book should be valuable for every surgeon, and, certainly, no surgical resident should be without it.

Aviation Toxicology: An Introduction to the Subject and a Handbook of Data. Prepared under direction of Committee on Aviation Toxicology, Aero Medical Association. Cloth. $4. Pp. 120, with illustrations. Blakiston Company (division of Doubleday & Company, Inc.), 575 Madison Ave., New York 22, 1953.

This book should be most useful to aviators. Known facts are used to show how intoxications may occur from exposure to substances used in the aviation industry. General problems of aviation toxicology are discussed. Various classes of substances used in aviation are enumerated, and their possible hazards indicated. Methods are given of calculating the concentrations that may be injurious to persons in a plane. The pesticides have received considerable attention, because planes coming from tropical areas must be sprayed to destroy possible carriers of tropical diseases; for example, the tsetse fly, vector of African sleeping sickness, has been carried from Central Africa into the Union of South Africa spreading the disease. The use of the airplane in aerial crop dusting and also in reclaiming large areas of infested lands is discussed. The last chapter lists compounds and such information as their physical constants and maximum safe concentrations.

Endocrinology in Clinical Practice. Edited by Gilbert S. Gordan, M.D., Ph.D., Assistant Professor of Medicine, University of California School of Medicine, San Francisco, and H. Lisser, M.D., Clinical Professor of Medicine and Endocrinology, University of California School of Medicine. Cloth. $10.50. Pp. 407, with 90 illustrations. Year Book Publishers, Inc., 200 E. Illinois St., Chicago 11, 1953.

This series of lectures constituted a postgraduate course in clinical endocrinology and metabolic diseases. The subject matter conforms to that included in the usual textbook, with chapters on obesity and leanness, infertility, the endocrine therapy of neoplastic diseases, an appendix listing useful endocrine preparations, and trade names and doses. Since this is a compilation, it is not surprising to find a disproportionate amount of space devoted to some subjects; for example, nine pages are devoted to Paget's disease, a nonendocrine disorder, but no mention is made of chromaffin cell tumors. In general, however, the subject matter is covered well and conforms to the opinions held generally by the profession. One might object to the designation "juvenile myxedema" applied to a patient, aged 26, suffering from mild hypothyroidism, or to the statement that "osteoporosis characteristically responds dramatically to the administration of estrogens or of androgens." As stated by the editors, "this book is not intended for the medical student, nor for the research investigator, nor for the clinical endocrinologist, who would find little within these pages with which he was not already familiar." Others will find in it a well-written, well-illustrated résumé of clinical endocrinology as presented by a group of endocrinologists, surgeons, and other specialists dealing with endocrine disorders in a large university hospital. For these the book may be recommended.

Estudios de neurología clínica. Por L. Barraquer Ferré, director de la Escuela de neurología del Hospital de la Santa Cruz y San Pablo, Barcelona. Cloth. Pp. 770, with 225 illustrations. José Janés, Editor, Muntaner, 316, Barcelona, 1952.

This volume describes all neurological syndromes in detail, illustrating them with short case histories. The diagnosis, treatment, and prognosis are discussed. The photographs are excellent, the index is adequate, and the text is written in a clear and concise manner.

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The Physician in Atomic Defense: Atomic Principles, Biologic Reaction and Organization for Medical Defense. By Thad P. Sears, M.D., F.A.C.P., Associate Clinical Professor of Medicine, University of Colorado School of Medicine, Denver. With foreword by James J. Waring, M.D., M.A.C.P., Professor of Medicine, University of Colorado School of Medicine. Cloth. $6. Pp. 308, with 53 illustrations. Year Book Publishers, Inc., 200 E. Illinois St., Chicago 11, 1953.

Dr. Sears has been associated for the past several years with civil defense and disaster planning in Colorado. Dr. Waring in his foreword states, "This book is the result of deep-seated conviction on the part of Dr. Sears that the community in which he lived should be prepared for atomic warfare." The stated objective of this volume is "first, to review briefly the present physical concepts of matter, gaining in this approach and without recourse to mathematical formulas, a sounder understanding of radioactivity and its applications. Attention will next be given the structure of the atom; the significance of radioactivity; the chain reaction and the atomic bomb; the use of isotopes. Then the symptomatology, pathology and treatment of atomic bomb injuries and the methods of civil defense will be reviewed." Section 1 is devoted to "Atomic Theory, Basic Physics and Atom Bombs." The presentation should be clear even to those lacking extensive training in biophysics or nucleonics. Section 2 deals with "Clinical, Biologic and Therapeutic Aspects of Atomic Warfare." More emphasis should have been given to the details of the management of casualties resulting from the blast and burn effects of an atomic explosion. The first aid and later treatment of burns in large numbers would present a major problem in the event of such an attack.

"Organization of the Medical Department for Atomic Defense," section 3, outlines many of the problems to be faced in planning for, or handling, a civil defense emergency. The author's estimates of casualties have been recently revised upward because of the production of more powerful atomic weapons. This will necessitate a revision of plans for the care and treatment of casualties. Many of the public health problems to be anticipated in the event of an atomic explosion are touched on but not in sufficient detail to serve as a complete guide for public health physicians having to contend with them.

At the end of most chapters there is a bibliography, which, for the most part, covers material up to and through 1951. An obvious disadvantage noted was the failure to indicate in the text where the items in the bibliography were used. The selection of material for illustration and the reproduction is quite good. The format is good and the type clear and easy to read. This book should serve as excellent supplemental reading for those interested in civil defense medicine.

Fundamentals of Disease: A Textbook of Pathology and Clinical Pathology for Nurses. By Emmerich von Haam, M.D., Professor of Pathology and Director of Laboratories, Health Center, Ohio State University, Columbus. Cloth. $4.75. Pp. 424, with 90 illustrations. Springer Publishing Co., Inc., 1 Madison Ave., New York 10, 1953.

Believing that the increased responsibilities placed by modern medicine on the nurse demand that she have a better understanding of the disease processes encountered in her patients, the author has described the lesions that underlie these processes. The first part is devoted to a discussion of the six principal lesions: degenerative changes, circulatory disturbances, inflammation, adaptive changes, tumors, and cellular death. The second part presents the reactions caused by various injurious physical and chemical agents. The third part deals with the diseases of the individual organ systems. The special pathology is followed in each instance by brief descriptions of laboratory tests and their relation to nursing functions. This close correlation between structural changes and pathological laboratory findings is intended to help the nurse understand why certain tests are ordered by the physician for his patient. The responsibilities of the nurse in collecting and handling specimens, as well as special care of the patient, are stressed. The illustrations in this book have been chosen from specimens and patients personally observed at the author's institution. Study questions follow each chapter. Teachers will find this book a valuable aid to instruction. The subject matter is well-organized, clear, and interesting.

Chronic Pulmonary Emphysema: Physiopathology and Treatment. By Maurice S. Segal, M.D., Clinical Professor of Medicine, Tufts College Medical School, Boston, and M. J. Dulfano, M.D. Modern Medical Monographs, 8. Cloth. $5.50. Pp. 180, with 32 illustrations. Grune & Stratton, Inc., 381 Fourth Avenue, New York 16, 1953.

Various aspects of hypertrophic pulmonary emphysema are reviewed in this monograph. The material on pulmonary function tests is well presented. The pathophysiology of the disease is, for the most part, clearly described, including recent studies on intracardiac pressures in cor pulmonale as well a briefer mention of the forces responsible for retarded expiratory air flow. The chemical effects of oxygen treatment are not adequately reviewed, however, especially in respect to adaptive changes that follow oxygen inhalation. Retention of carbon dioxide in the blood and alveolar air is emphasized as the danger of oxygen treatment, and hyperventilation by mechanical means is properly advocated in cases of uncompensated respiratory acidosis. In the original studies on oxygen therapy in pulmonary and cardiac failure, however, it was pointed out that an increased arterial carbon dioxide tension was responsible for high carbon dioxide elimination per unit volume of ventilation; the increased carbon dioxide concentration in the alveolar and expired air is itself part of the mechanism that makes possible the continuous use of oxygen and, consequently, of clinical benefit. An elevated arterial carbon dioxide tension is more advantageously lowered by therapeutic measures that improve respiratory function, since, in the absence of an acid shift in blood pH, increasing the ventilation by artificial respiration devices may upset a useful adaptive response.

The therapeutic section includes a diverse discussion of symptomatic treatment, administration of antibiotic aerosols, corticotropin (ACTH) and cortisone, oxygen, mechanical respiration, pneumoperitoneum, psychotherapy, and breathing exercises. Although some of the procedures advocated still have to bear the test of critical judgment, many valuable hints for the management of patients with pulmonary emphysema will be found in these chapters. The book is readable, adequately illustrated, and should be helpful to the practitioner or student of medicine interested in diseases of the chest.

Fibrocystic Disease of the Pancreas: A Congenital Disorder of Mucus Production—Mucosis. Edited by Martin Bodian, M.D., Director of Department of Morbid Anatomy, Hospital for Sick Children, London. Contributors: Martin Bodian, in collaboration with A. P. Norman, M.D., M.R.C.P., Deputy Director, Institute of Child Health, London, and C. O. Carter, B.M., M.R.C.P. Cloth. 59.50. Pp. 244, with 133 illustrations. Grune & Stratton, Inc., 381 Fourth Ave., New York 16; [William Heinemann, Ltd., 99 Great Russell St., London, W.C.1], 1953.

This monograph brings together for the first time in book form the clinical, genetic, and pathological information relating to the disease usually labeled cystic fibrosis or fibrocystic disease of the pancreas. It consists of a survey of the literature pertinent to outlining the evolution of concepts of pathogenesis of the disease and a clinical and pathological review of the group of patients studied. A review of the varied clinical manifestations of the disease is based on analysis of 116 cases. The genetic aspects of the disorder are presented in a separate chapter, and the recessive gene hypothesis of etiology is accepted on the basis of analysis of the familial incidence.

The most important feature of the book is the section on pathology. This section consists of a system by system description of the gross and microscopic pathology observed in 62 patients who came to autopsy. It is profusely illustrated by photographs remarkable for clarity of detail and excellence of reproduction. Special emphasis is given to illustration, by photomicrograph, of the pathology of mucous glands throughout the body and the abnormalities of the pancreas and respiratory system that are the basis for the clinical manifestations of the disease. The thesis expressed in the subtitle, "A Congenital Disorder of Mucus Production," is well substantiated by the material presented. The clinical and pathological protocols of the 116 cases studied are included. A chapter that describes other pancreatic dysplasias simulating some of the manifestations of fibrocystic disease of the pancreas, is included, and the contrasting pathology of congenital hypoplasia of the exocrine pancreas and congenital

cystosis of the pancreas is described and illustrated. The intent of the monograph, to present the clinical and pathological aspects of fibrocystic disease of the pancreas, has been accomplished with a clarity not compromised by the meticulous detailed observations, and with the liberal use of superior illustrative material. The book carefully documents the concepts of the author concerning the pathological unity of the manifestations of the disease. It is stimulating for those in a position to undertake research in new or better forms of therapy for this lethal disease and is unusually rewarding for the physician responsible for the care of patients with fibrocystic disease of the pancreas.

Modern Concepts of Communicable Disease. By Morris Greenberg, M.D., M.S.P.H., Director, Bureau of Preventable Diseases, New York City Department of Health, and Anna V. Matz, R.N., M.A., Public Health Nursing Consultant in Communicable Diseases, New York City Department of Health. Foreword by Harry S. Mustard, M.D., LL.D. Cloth. $6.20. Pp. 553, with 15 illustrations. G. P. Putnam's Sons, 210 Madison Ave., New York 16, 1953.

This volume is designed for physicians and nurses and as a textbook. The authors have attempted to present a compact and condensed summary of diagnostic, therapeutic, nursing, and preventive measures. The first part of the volume deals with general principles of infection, treatment, and nursing care. In the latter the authors have sought to simplify procedures and to remove many of the unnecessary details that have made home care so difficult. Most readers will welcome their attempted simplification and their liberal point of view, but will question the statements that sterilization is "synonymous with disinfection" (page 84), that pasteurization is a means of sterilizing milk (page 86), or that typhus is caused by a virus (page 11). The second section deals with about 60 diseases grouped according to principal modes of transmission. Each disease is discussed according to a standard pattern—the causative agent, the host, the environment, and medical care. The approach is modern and orderly, and the discussion clear and constructive. The reader may wonder, however, whether a more thorough discussion of fewer diseases might be preferable to the attempt to say something about so many.

The references at the ends of the chapters need extensive revision. Many are inaccurate, as, for example, the reference to Zinsser's classic on typhus, "Rats, Lice and History" as a book on bubonic plague under the title of "Plague, Rats and History." There is a list of 36 references to articles on rickettsial diseases as contrasted to only 6 on typhoid and none on meningococcic infections. The volume has much to commend it but requires more careful editing. These many imperfections, which mar the volume and are evident to the critical reader, should not obscure the fact that the authors have prepared a highly useful text that is of special value to physicians caring for communicable disease in the home.

Pulmonary Tuberculosis: A Handbook for Students and Practitioners. By R. Y. Keers, M.D., F.R.C.P., F.R.F.P.S., Medical Director, Red Cross Sanatoria of Scotland, Tor-na-Dee, Milltimber, Aberdeenshire, and B. G. Rigden, M.R.C.S., L.R.C.P., Physician, Lewes Chest Clinic. With new foreword by F. H. Young, O.B.E., M.D., F.R.C.P., Physician, Brompton Hospital for Consumption and Diseases of Chest, Brompton, England. Third edition. Cloth. $5.50. Pp. 324, with 150 illustrations. Williams & Wilkins Co., Mount Royal and Guilford Aves., Baltimore 2; E. & S. Livingstone, Ltd., 16 & 17 Teviot Place, Edinburgh 1, 1953.

This handbook, primarily for the student and practitioner, makes no claim for originality of method or material but aims to stimulate sufficient interest in a fascinating subject to encourage further pursuit in postgraduate years. The practitioner may obtain from it an outline of present-day therapeutic measures. More specialized details are omitted. Much of what was taught in 1946 is out of date, and this edition is almost entirely rewritten, with a new section on management of the minimal lesion. Many of the skiagrams are new. The size remains much the same because of condensation and elimination of surgical details to produce a volume convenient to handle. The authors help the student to see pulmonary tuberculosis in good perspective so that he does not get lost in a maze of detail. Although the laboratory phases are a little encumbered by the inclusion of a few obsolete and meaningless features, such as the now outmoded Gaffky system of enumerating bacilli in the sputum, the clinical chapters in the authors' own fields of observation and experience are well presented, and the illustrations are pointed. It is also encouraging that the authors have not overaccentuated the modern and note that "the recipe for success remains unaltered and depends as before on the intensity and breadth of our vigilance against the disease and upon the vigour and completeness of our efforts"—a laudable stand, particularly as conveyed to the student and practitioner who at this time may otherwise belittle the continued importance of an intricate disease.

Physiology of Muscular Activity. Originally by Edward C. Schneider, M.P.E., Ph.D., D.Sc. Fourth edition, by Peter V. Karpovich, M.P.E., M.D., Professor of Physiology, Springfield College. Springfield, Mass. Cloth. $4.75. Pp. 340, with 77 illustrations. W. B. Saunders Company, 218 W. Washington Sq., Philadelphia 5; 7 Grape St., Shaftesbury Ave., London, W.C.2, 1953.

The fourth edition of this book is as valuable and attractive as the first. Despite the addition of important recent material, the size has been kept within bounds. Assuming that the student has had introductory courses in anatomy and physiology, the author discusses muscular activity from the standpoint of muscular structure, nervous control, fuel required, the role of oxygen, energetics, relative energy costs of different activities, respiration, composition of the blood, cardiac output, pulse rate, blood pressure, coordination, fatigue and staleness, external temperature, fitness and age, tests of fitness, body types and posture, activity during convalescence, and ergogenic aids (special foods, drugs, and training ideas) in work and sports. The bibliography includes foreign publications, and a judicious use of references enables the author to condense his text without lapsing into dogmatism.

The section on types of physique reflects an unsatisfactory state of that subject; there is reason to doubt that it has been much advanced by Sheldon's polysyllabic terminology and mathematical devices. The section on ergogenic aids contains some extraordinary illustrations of means that have been used, rightly or wrongly, to increase work output, from cardiac stimulants for mountain climbers to phosphates for coal miners. These ideas are dispassionately appraised, and the book should go far to discourage some irrational fads. The wealth of personal experience of the present author and his predecessor is implicit throughout the text, and the practical applications on every page make it interesting. The book is of fundamental importance to every physician related in any way to schools and athletic programs.

Shoulder Lesions. By H. F. Moseley, M.A., D.M., M.Ch., Assistant Professor of Surgery, McGill University, Montreal. Second edition. Cloth. $12. Pp. 329, with 216 illustrations and 43 colored plates by Helen MacArthur, B.A. Paul B. Hoeber, Inc. (medical book department of Harper & Brothers), 49 E. 33rd St., New York 16, 1953.

The first edition of this book by H. F. Moseley was so impressive that it did not appear that anything of importance was missing. This second edition, however, is definitely an improvement, and it includes two new chapters: "Fractures of the Shoulder Region," and "The Clavicular Articulations."

The use of hydrocortisone and corticotropin (ACTH) in the treatment of arthritis and bursitis in the region of the shoulder has been accurately described and will be of real help to the physician who is frequently faced with the problem of these often refractory conditions. No chapter will be of greater help to the physician than that edited by Francis L. McNaughton, entitled "Neurological Aspects of Shoulder Pain." X-ray diagnosis and treatment is also discussed in a separate chapter by specialists eminently qualified to speak on these subjects, Dr. Carleton Peirce and Dr. Jean Bouchard, of McGill University.

The excellence of the printing and the reproduction of illustrations, including many in full color, drawn and painted by artist Helen MacArthur, are especially noteworthy. This excellent book no longer can be considered merely as a textbook but must be classed as a reference book. A copy should be in the library of every orthopedic surgeon, every surgeon of trauma, and of all physicians who have a scholarly interest in medicine and surgery.

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The Low Sodium Cook Book: How to Prepare Tasteful Meals for the Low Sodium or Low Salt Diet—Including Suggestions for the Low Sodium, Low Fat, Low Cholesterol Diet. By Alma Smith Payne, M.A., and Dorothy Callahan, B.S., Research Dietitian, Massachusetts General Hospital, Boston. With introduction by Francis L. Chamberlain, M.D., M.Sc.D. Cloth. $4. Pp. 477. Little, Brown & Company, 34 Beacon St., Boston 6, 1953.

Physicians who prescribe low sodium diets and patients who must follow them will find this book invaluable. It is accurate, easy to read, and practical. It contains many suggestions, including intriguing recipes, that should greatly assist in making the low sodium diet more palatable. The importance of the physician's instructions and guidance are stressed throughout the book. The 18 chapters deal with the various classes of foods, methods of preparation, seasonings, foods to avoid, the packaged lunch, and a discussion of what to eat outside the home. The sodium content of individual servings and recipes is always indicated. A chapter on the low sodium, low fat, low cholesterol diet is included. In the appendix, the sodium, cholesterol, and fat content of common foods, the sodium content of public water supplies, and commercial low sodium products and concerns manufacturing them are listed. This book is recommended highly to physicians, patients, and dietitians as a guide for planning interesting, low sodium diets.

Rose and Carless' Manual of Surgery for Students and Practitioners. By Sir Cecil Wakeley, Bt., K.B.E., C.B., President of Royal College of Surgeons of England, London. Contributors: S. G. Clayton, M.S., F.R.C.S., F.R.C.O.G., Obstetrical and Gynaecological Surgeon, King's College Hospital, London, et al. Eighteenth edition. Cloth. $12. Pp. 1471, with 1011 illustrations. Williams & Wilkins Company, Mount Royal and Guilford Aves., Baltimore 2, 1952.

Presumably this manual is intended as a textbook and as a reference book for general practitioners. To fulfill this role it should contain full discussions of surgical fundamentals and of common surgical conditions, together with authoritative, up-to-the-minute résumés of less frequently encountered problems. In neither of these fields does the book achieve consistent success.

The chapters on infection, shock, and hemorrhage and blood transfusion are all of high quality, and there is a particularly good chapter on burns by Wallace. The chapter on biopsy in surgery is a new departure and deserves mention. Although parts of the rest of the book achieve the standard of those mentioned, others are less commendable. In part this may be due to delay between writing and publication, and it is disappointing to find so many recent advances omitted from a text dated 1952. For example, the chapter on water and salt deficiency, competent as far as it goes, is strangely uninformative about blood chemistry studies, and potassium is only mentioned briefly in an addendum (page 57). The only liver function tests mentioned (page 1022) are the levulose tolerance test and the urinary nitrogen coefficient; hepatic function is passed over with the statement "there is no satisfactory clinical or laboratory test of the efficiency of the liver." Diaphragmatic hernia is given one brief paragraph, and hiatus hernia is not mentioned at all, except for a note on the congenital short esophageal type in the section on diseases of the esophagus. Resection therapy for pulmonary tuberculosis is not even mentioned. Although Hirschsprung's disease is discussed in two different sections of the book, the space given to it is largely wasted, because modern concepts of the cause and treatment introduced by Swenson are not included. In the section on vascular surgery, the only method given for bridging arterial defects is the "saphenous vein graft supported by a vitallium tube if available" (page 139), and the classical ligations of major arteries are listed in the old-fashioned textbook way without any indications of the results of these ligations (page 149). There is no indication of the importance of the postphlebitic factor in the pathogenesis of "varicose ulcers."

There is one dangerous misconception that is not excusable on the basis of too recent advance. The fiction that a carcinoma of the breast can be "easily distinguished" clinically from an adenoma is perpetuated (page 889), and the pathetic list of signs of incurable cancer is cited under the heading of "diagnosis." The subsequent qualification that any suspicious lump should be regarded as cancer until proved otherwise is insufficiently stressed in view of the fact that this book is aimed at students on whom the future responsibility for early cancer diagnosis will rest.

The book is well printed and profusely illustrated. It is enlivened by an occasional misprint, as when the reader is informed that inoperable cancer of the bladder can be treated by radon seeds inserted through a "suprapublic" opening. Reference lists have been omitted, doubtlessly for economy of space, but in a modern textbook this is surely false economy.

In spite of its deficiencies, this manual remains one of the standard textbooks of surgery. The fact that it has gone through 18 revisions in over half a century is good indication of its general usefulness. Most of the deficiencies probably stem from the inevitable lag period that exists between the preparation and publication of such a comprehensive textbook. Some, however, are apparently due to a much too conservative attitude in accepting new developments in surgery.

Glaucoma: Pathology and Therapy. By Paul Weinstein, M.D., Associate Professor of Medical Ophthalmology, at University at Budapest. Translated by Julius Foldes, M.D., Director of Laboratories, Hazelton State Hospital and St. Joseph's Hospital, Hazleton, Pa. Cloth. $8. Pp. 295, with 36 illustrations. C. V. Mosby Company, 3207 Washington Blvd., St. Louis 3, 1953.

By his painstaking research and careful selection of the world's literature on glaucoma, the author has provided a résumé of a problem that still baffles the ophthalmologist. He points out that the water balance, the water-binding capacity of the blood proteins (oncotic pressure), and the daily changes of ocular tension are greatly influenced by the hypophysis. He gives an excellent discussion on the sinus venosus sclerae (aqueous veins), the glass rod phenomenon, the laminary veins, the plexus ciliaris (Kiss), and of the cystic emissarium (of Weinstein) and episcleral emissary veins, and concludes that "Kiss-Weinstein's emissaria play an essential role in the discharge of aqueous humor, and, in cases of simple glaucoma, their activity supersedes that of the aqueous veins." The author is convinced that, in those patients in whom a spontaneous pulsation of the retinal veins is present, the vision has been preserved. The presence of spontaneous pulsation of the retinal veins, therefore, improves the prognosis of glaucoma.

The text includes Barkan's classification of glaucoma, pathological-anatomic characteristics, clinical characteristics, and operation of choice. Under therapy, the author advocates, in addition to the usual therapeutic regimen in glaucoma, specific therapy such as the use of vasodilators for the improvement of retinal circulation. He also recommends this for the improvement of retinal circulation in chronic glaucoma. He points out that high blood pressure with some retinal pulsation is of prognostic import, because under these conditions the venous retinal circulation is at its best. When the blood pressure is low and there is no spontaneous retinal venous pulsation, vasodilators in conjunction with drugs that raise the blood pressure are used. For the lowering of venous pressure, intravenously administered hypertonic solutions (salt, glucose) are recommended. Any student of glaucoma will want to include in his personal library this concise, compact monograph, which places the world's literature at his fingertips.

The Social Insects. By O. W. Richards, M.A., D.Sc. Cloth. $4.75. Pp. 219, with 63 illustrations. Philosophical Library, Inc., 15 E. 40th St., New York 16; Macdonald & Co., Ltd., 16 Maddox St., London, W.C.1, 1953.

The author, one of Britain's foremost entomologists, has written a very readable account of the communal activities of bees, wasps, ants, and termites. The results of the most recent research in this field are described clearly and authoritatively to establish for the reader the contrast between insect and human societies. Although human behavior depends almost entirely on learning in early life, insect behavior is unlearned, "unintelligent," and rigid. Despite such a limitation, it is surprising to learn how insects have developed societies of diverse complexities.

Medicine. Volumes I and II. Edited by Hugh G. Garland, T.D., M.D., F.R.C.P., Physician in Charge, Department of Neurology, General Infirmary at Leeds, England, and William Phillips, M.D., B.Sc., F.R.C.P., Senior Physician and Physician in Charge of Cardiac Department, Cardiff Royal Infirmary, Cardiff. Foreword by F. A. E. Crew, T.D., M.D., D.Sc., Professor of Public Health, University of Edinburgh, Edinburgh. Cloth. $25 per set. Pp. 1077; 1078-2146, with illustrations. St. Martin's Press, 103 Park Ave., New York 17, 1953.

The editors of this book believe that the advances in medical knowledge in the last half century are too great to be comprehended by any one person. Consequently, any text that is to present the knowledge, experience, and wisdom of the present generation must be the joint effort of many workers. The present volumes include contributions from 40 distinguished specialists in the medical schools of Great Britain and Ireland, one from New Zealand, and one from Canada. Furthermore, as Professor Crew points out in the foreword, the essential humanism of medicine has not become adjusted with the ever-expanding science of medicine. The concept of a unifactorial causation of disease is no longer satisfactory. Disease causation has become multifactorial through expanding knowledge in such fields as genetics, developmental physiology, nutrition, psychiatry, and sociology. These changes have made manifest that both society as a whole and the profession of medicine need a clear restatement of the purpose and objectives of medicine. The practice of medicine, as well as the teaching, must remain incomplete unless medicine concerns itself not only with the cure and prevention of disease in the individual and in the group but also with the problems that are created by the personal and social consequences of such disease.

Almost half of the first volume is devoted to subjects not covered in most texts of medicine, such as assessment of physical and mental health, natural history of disease, social aspects of the etiology of disease, genetic factors in disease, psychosomatic medicine, and rehabilitation. A chapter on the patient as a person presents abstracts of psychiatric interviews of both adult and child, and points out in brief paragraphs the uses of psychological testing, intelligence tests, and personality assessment. A section on nutrition and disease discusses the relation of poverty, pregnancy, growth, dental health, and physical fitness to the development of disease. The remainder of the first volume includes sections on infection and immunity, neoplasms, principles of diagnosis in adults and in children, the place of radiology in diagnosis, laboratory methods, general principles of treatment, symptomatic treatment, the skin in general medicine, common fevers, tropical diseases, effect of physical agents, diseases principally encountered in industry, and aviation medicine.

The second volume contains sections on the description of systemic diseases, such as diseases of the digestive system and the cardiovascular system. The arrangement is not on an etiological basis in contrast to the usual plan of American texts. Thus measles and whooping cough are described in a chapter on acute respiratory infections in the section on common fevers, while the common cold and influenza are included in diseases of the respiratory tract. Meningococcic meningitis, poliomyelitis, tetanus, herpes zoster, rabies, and lead encephalopathy are grouped under infections and intoxications of the central nervous system. Kala-azar and amebiasis are found in the section on tropical diseases. The text is well written and exhibits a more conservative attitude than is usual in this country. Thus, the relation of rheumatic fever to a preceding streptococcic infection is suggested, but not accepted, and, while neostigmine is recommended for myasthenia gravis, any involvement of the acetylcholine-cholinesterase system is not mentioned. The volumes are long for a textbook and the sections lack the completeness desired in a reference book. They make valuable collateral reading, however, and contain much information not collected in most other medical texts. A few references are provided in some sections but more would be desirable. The index is complete, and the reproductions of roentgenograms are superior.

The Nature of Virus Multiplication: Second Symposium of the Society for General Microbiology Held at Oxford University, April 1952. [Edited by Paul Fildes and W. E. van Heyningen.] Half-cloth. Pp. 320, with illustrations. Cambridge University Press, Bentley House, 200 Euston Rd., London, N.W.1; 32 E. 57th St., New York 22, 1953.

This volume contains the papers and the discussions of the symposium. The papers were not read during the meeting but were previously circulated in galley form to those expecting to attend. The symposium consisted essentially of discussions of these papers by the authors, invited speakers, and the audience as a whole, who thus had an opportunity to consider carefully the material in advance. Certain of the discussions are, therefore, of unusual value to the reader in helping to evaluate the complex array of data and theory presented by 18 capable investigators of the fundamental but still highly obscure and controversial problem of virus multiplication. No doubt the present status of this problem led the conveners of the symposium to select it for consideration in order to summarize the numerous facts defined by recent research and the current hypotheses that seek to fit these facts into a unified conception of the manner in which viruses are reproduced. This objective has been admirably attained, and the qualified reader will gain a comprehensive view of the contemporary knowledge and the best thought on this subject. The first paper deals with modern theories concerning the synthesis of proteins and nucleoproteins in general. The synthesis of viral proteins and nucleoproteins is then discussed with particular reference to some of the plant viruses, and it is suggested that the same cellular mechanisms that are concerned with normal protein and nucleoprotein synthesis are involved in the production of virus, the latter serving only to direct these mechanisms into the somewhat peculiar activities.

The remainder of the book concerns multiplication as observed in bacteriophages, certain mammalian viruses, and in those infecting insects. The essential similarities between the reproductive phenomena in each of these groups are thus given emphasis. To most of the authors these phenomena seem to support the prevailing concept of viral multiplication: the virus, in some as yet undefined manner, acts as a "stimulant" or "template" in a synthetic process whereby its own reproduction is accomplished and that involves in whole or in part the enzymes of the cell. Two older views find only occasional defenders. Indeed, the idea, once shared by many, that the virus simply activates a precursor that is a normal constituent of the cell somewhat in the manner that pepsinogen is converted to pepsin, is supported by a single investigator. In its simplest expression, the conception of virus as a minute, obligate, intracellular parasite, multiplying by binary fission, has been completely abandoned, although it is retained in a more complex form set forth in one excellent paper.

The book will represent a valuable addition to the virologist's library and should be of much interest to the biochemist and to others professionally concerned with the problem of growth. The format, typography, illustrations, and figures are excellent, as is likely to be the case with English scientific publications in general.

Human Neuroanatomy. By Oliver S. Strong and Adolph Elwyn, Associate Professor of Neuroanatomy, College of Physicians and Surgeons, Columbia University, New York. Third edition. Cloth. $7.50. Pp. 481, with 357 illustrations. Williams & Wilkins Company, Mount Royal and Guilford Aves., Baltimore 2, 1953.

Since the second edition of this book (1948), there has been a great advance in our knowledge of neuroanatomy and neurophysiology. The present editor of this volume has revised the text to conform to the more recent accessions in these fields. Many sections of the book have been largely rewritten and expanded, particularly those portions dealing with nerve degeneration and the sections on the cerebellum, thalamic nuclei, and the reticular system of the brain stem. Important additions have also been incorporated into the chapters on the prefrontal areas and the cortical projection systems. In general, there has been a page-to-page revision of the entire text, with new illustrations added. The fundamental changes make this virtually a new book, a text that can be, as in the past, highly recommended.

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Aspects of the Psychology of the Tuberculous. By Gordon F. Derner, Ph.D., Associate Professor of Psychology, Adelphi College, Garden City, New York. Psychosomatic medicine monograph. Cloth. $3.50. Pp. 119. Paul B. Hoeber, Inc. (medical book department of Harper & Brothers), 49 E. 33rd St., New York 16, 1953.

In this period in medical history, when the relationship of the mind-body configuration to disease is being stressed, the author considered it worth while to examine the psychological aspects of a disease with a long history of psychosomatic interest. His method of appraisal included the use of clinical interviews, standard psychological tests, and specially designed tests. The questions asked concerned the specific and characteristic feelings and reactions of the patients. The degree of psychopathology and the prevalence of *spes phthisica* were investigated. Some of the findings included (1) the conclusion that there is no unique tuberculous personality but a wide variety of disturbed behavior; (2) traumatic reaction to diagnosis of tuberculosis was reflected in projections and dreams; (3) the most frequent emotions were fear, apprehension, and depression (most patients were optimistic about prognosis but did not show *spes phthisica*); (4) the most frequent thought was desire to leave the hospital and return to active living; (5) cough was the most frequent prediagnosis symptom; (6) most frequent suggestions were for better food, more individual medical interpretation, and other services; and (7) observations were made of low affectivity, emotional impoverishment, impoverished intellectual productivity, introversion and some emphasis on body-oriented ideas on the part of the patients. Derner suggests that rehabilitative procedures coupled with psychotherapy may help the patient choose a life goal appropriate for him. The effectiveness of psychotherapy as an adjunct to the presently prescribed methods of tuberculosis treatment offers an important research problem. This report, though limited in the numbers of patients studied (32), is a valuable beginning in a fruitful field.

Experimental Atherosclerosis. By Louis N. Katz, M.D., Director, Cardiovascular Department, Medical Research Institute, Michael Reese Hospital, Chicago, and Jeremiah Stamler, M.D., Research Associate, Cardiovascular Department, Medical Research Institute, Michael Reese Hospital. Publication number 124, American Lecture Series, monograph in Bannerstone Division of American Lectures in Metabolism. Edited by Paul György, M.D., Louis Leiter, M.D., Ph.D., and S. O. Waife, M.D. Cloth. $10.50. Pp. 375, with 37 illustrations. Charles C Thomas, Publisher, 301-327 E. Lawrence Ave., Springfield, Ill.; Blackwell Scientific Publications, Ltd., 49 Broad St., Oxford, England; Ryerson Press, 299 Queen St., W., Toronto 2B, 1953.

This timely monograph by workers who have long labored in the field will prove of interest to a large group of researchers and clinicians. The authors have assembled and correlated the most significant contributions in this major area, including much of their own extensive clinical and laboratory experience. The list of more than 700 references is a contribution in itself. The use of these references in the text gives the reader some idea of what the original authors sought to establish, but, at least in some instances, their claims appear to have been presented without critical evaluation by the present authors. Perhaps this was intentional. The order of presentation of the subject is sound—beginning with the significance of this problem that probably overshadows all else in the study of the pathological changes of the human body. The authors properly lay the ghost of the theory that old age is the cause of atherosclerosis. It is vitally important that all workers adopt their attitude, namely a dynamic approach to this difficult problem, rather than the passive observation of natural phenomena. Emphasis on the metabolism of cholesterol, lipid and lipoproteins predominates throughout. This appears justified in the light of present knowledge. The relation between metabolism of these factors and sex hormones or other sex factors receives mention, but this important key deserves more serious consideration in such a work, and by all the workers in this field. This excellent compendium will serve as a useful tool and source of information for 1953 but will require frequent revision because of the enormous outpouring of work on this subject. It is highly recommended reading.

Isotopic Tracers in Biochemistry and Physiology. By Jacob Sacks, Ph.D., M.D., Associate Professor of Chemistry, University of Arkansas, Fayetteville. Cloth. $8.50. Pp. 383, with 25 illustrations. McGraw-Hill Book Company, Inc., 330 W. 42nd St., New York 36; 95 Farringdon St., London, E.C.4, 1953.

Isotopic tracer techniques as applied in studying the metabolism of carbohydrates, fatty acids, phospholipids, steroids, proteins, amino acids, nucleic acids, purines, and minerals constitute some of the subject material of this text. In addition, tracer studies on the blood, photosynthesis, radioactive iodine and the thyroid, the handling of radioactive isotopes, and the measurement of radioactivity are included. The text also provides an interesting chapter on the fundamentals of nuclear physics and radioactivity that serves as a basis for understanding the more detailed and technical material that follows. Physicians and other scientists working in physiology, biophysics, and biochemistry will find this a most useful text, provided they have a good basic knowledge of the physics and chemistry concerned.

Die Wirbelsäulentuberkulose und ihre Differentialdiagnose. Von Dr. J. E. W. Brocher, Archiv und Atlas der normalen und pathologischen Anatomie in typischen Röntgenbildern. Ergänzungsband 68, Fortschritte auf dem Gebiete der Röntgenstrahlen vereinigt mit Röntgenpraxis, herausgegeben von: R. Grashey, et al. Cloth. 78 marks. Pp. 272, with 376 illustrations. Georg Thieme, Diemershaldenstrasse 47, (14a) Stuttgart-O; [American agent—Grune & Stratton, Inc., 381 Fourth Ave., New York 16], 1953.

This work is one of a series of archives and atlases of normal and pathological anatomy in diseases that usually produce x-ray pictures from which diagnosis can be made. The author, an experienced roentgenologist, points out the frequency with which patients believed to have fibrositis, "the witches' shot" of the Germans, or the victims of rheumatic spines, are brought to the roentgenologist too late to permit an early diagnosis. He indicates that the patients on whose lesions the discussions in his book are founded, are not from hospital practice, because patients frequently enter the hospital in the late stages of their disease. He emphasizes the fact that the newer roentgenologic methods have been used. In view of the extensive bibliography appended to the text, the work is a reference book rather than an ordinary textbook, especially since the author clearly demonstrates that other conditions may closely simulate spinal tuberculosis and are difficult to differentiate without the guidance of an expert roentgenologist.

The book begins with nearly 100 pages devoted to the consideration of tuberculous spondylitis. The history of this disease is discussed briefly and, more extensively, its pathogenesis, symptomatology, laboratory diagnosis, local peculiarities, prognosis, and treatment. A final brief section in the review discusses the proper procedure in treating early cases in which, even after x-ray, the diagnosis is doubtful. The second section of the book discusses nontuberculous spondylitis of infectious origin, such as osteomyelitis of the spinal bones, the spondylitis of brucellosis, typhoid and typhus spine, and various infections of the vertebrae following abortion, sore throat, diphtheria, erysipelas, furunculosis, gonorrhea, influenza, carbuncles, leprosy, malaria, measles, cerebrospinal meningitis, pneumonia, smallpox, and anthrax. The third section covers ankylosing spondylitis, and the fourth section deals with so-called Scheuermann's disease, (also known as juvenile dorsal kyphosis, vertebral epiphysitis, vertebral osteochondritis, and juvenile osteochondritic kyphosis). The author regards this as one of the conditions most commonly mistaken for Potts' disease. Shorter sections discuss anterior fusion of vertebrae, separation of vertebrae, flat spine, congenital and acquired developmental failures, osteochondrosis, diseases accompanied by diffuse calcification, and primary neoplasms of the vertebrae.

There is an illuminating discussion of differential diagnosis, a short epilogue, nearly 10 pages of references, and a good subject index. The book is attractively bound in brown cloth;

the paper and topography are excellent, and the illustrations, a few of which are diagrammatic, are mainly excellent reproductions of roentgenograms. It is a well-written, systematic, and profusely illustrated treatise on the subject.

Individual and Community Health. By William W. Stiles, M.D., M.P.H., Associate Professor of Public Health, University of California, Berkeley. Cloth. $6. Pp. 492, with 134 illustrations. Blakiston Company (division of Doubleday & Company, Inc.), 575 Madison Avenue, New York 22, 1953.

This volume is especially well suited to the audience for which it is primarily intended, the college student. It is generously provided with excellent illustrations, and the various sections in each chapter have comprehensive lists of suggestions for supplemental reading. The discussion is presented in a well-written, easy-to-read style. The author has been careful to write with restraint but at the same time to present all aspects of the topics.

All the significant aspects of individual and community health are considered in the 17 chapters. Satisfactory orientation is provided in the opening chapter, which, by citing facts and figures, shows clearly the need for control of disease even though tremendous advances have been made within the last century. This progress is emphasized in more detail in the closing section of the book. Disease control measures are well described in a special chapter. It is difficult to select any outstanding chapters, but it can be mentioned that the consideration of sociosexual problems is especially informative, as are chapters on food sanitation, occupational diseases, maternal and child care, and the final chapter dealing with careers in medicine and allied sciences.

Pituitary Chromophobe Adenomas: Neurology, Metabolism, Therapy. A Clinical Study of the Sellar Syndrome. By John I. Nurnberger, M.D., Research Associate, Institute of Living, and Assistant Clinical Professor of Medicine (Neurology), Yale University School of Medicine, New Haven, Connecticut, and Saul R. Korey, M.D., Associate Professor of Neurology, School of Medicine, Western Reserve University, Cleveland. Cloth. $7. Pp. 282, with 35 illustrations. Springer Publishing Company, Inc., 44 E. 23rd St., New York 10, 1953.

This monograph consists of a comprehensive review of the literature on chromophobe adenomas and an analysis of 117 cases observed at the Neurological Institute of New York and the medical services of the Columbia-Presbyterian Medical Center from 1929 to 1948. The normal structure of the hypophysis and hypothalamus and the pathological changes encountered in chromophobe adenomas are described, and the neurological and metabolic disturbances associated with these pituitary tumors are discussed. Treatment by radiotherapy, surgery, and medical management are discussed briefly. The book is well illustrated and contains over 400 references.

Human Blood Coagulation and Its Disorders. By Rosemary Biggs, B.Sc., Ph.D., M.D., Graduate Assistant in Department of Pathology, Radcliffe Infirmary, Oxford, and R. G. Macfarlane, M.A., M.D., Clinical Pathologist to Radcliffe Infirmary, Oxford. Cloth. $8. Pp. 406, with 60 illustrations. Charles C Thomas, 301-327 E. Lawrence Ave., Springfield, Illinois; Blackwell Scientific Publications, Ltd., 49 Broad St., Oxford, England; Ryerson Press, 299 Queen St., W., Toronto 2B, 1953.

Biggs and Macfarlane, having long experience in the field of blood coagulation, have produced a splendid monograph on this subject. The introduction deserves careful reading by all students of medicine regardless of the stage of their career. Those contemplating or involved in medical research will especially appreciate it. The complications and pitfalls of past work in this field are reviewed with care and penetrating skill. The following chapters cover the known aspects of the mechanism of clotting and much that is speculative. The second portion of the volume is devoted to disorders of blood coagulation, including fibrinogen deficiency, hypoprothrombinemia, the coagulation defect in hemophilia, platelet deficiency, natural anticoagulants, thrombosis and anticoagulant therapy, artificial coagulants, and hemostatics. As an addendum an informative section on the newly recognized Christmas disease and Christmas factor has been added.

Appendixes of considerable practical value deal with the differential diagnosis of coagulation defects, the preparation of reagents, and technical methods. A bibliography of more than 900 references represents a wise selection of world literature in this field. The extensive experimental and clinical experience of these authors adds greatly to the significance of this volume. Their observations on thromboplastin have opened new vistas in the study of hemophilia and related disorders. In a field in which knowledge and theories are still in a constant state of change, this volume stands as an excellent milepost of progress. It is recommended to physicians who are interested in the problems of thrombosis and hemorrhage.

Recent Progress in Hormone Research: The Proceedings of the Laurentian Hormone Conference. Volume VIII. Edited by Gregory Pincus. Committee on arrangements: R. W. Bates, et al. Cloth. $10.80. Pp. 603, with illustrations. Academic Press, Inc., 125 E. 23rd St., New York 10, 1953.

The proceedings of the ninth Laurentian Hormone Conference, which took place in Quebec, Canada, in September, 1952, are divided into four sets of papers on (1) chemistry and biochemistry, particularly the analysis of adrenocorticosteroids; (2) diseases of adaptation, i. e., adrenocortical physiology; (3) physiology of female reproduction; and (4) the role of the growth hormone and the roles of hormones in in vitro synthesis of lipids. The papers are by experts in their fields, the presentations are clear, and the discussions are lively. Perhaps the most interesting papers to practicing physicians are those by Thorn, Jenkins, and Laidlaw on human adrenal response to stress, by Bauer and Clark on the adaptation concept applied to diseases of the connective tissues, and by Huggins, Bergenstal, and Cleveland on the adrenal in cancer. All of the papers are worth skimming, however. The book is well illustrated, indexed, and bound.

A Guide to Obstetrics in General Practice. By William C. W. Nixon, M.D., F.R.C.S., F.R.C.O.G., Professor of Obstetrics and Gynaecology, University of London, London, and Eric B. Hickson, M.R.C.S., L.R.C.P., D.R.C.O.G., Chairman, Wiltshire Local Obstetric Committee, Wiltshire, England. Cloth. $6. Pp. 301, with 35 illustrations. Staples Press, Inc., 70 E. 45th St., New York 17; 83-91 Great Titchfield St., London, W.1, 1953.

This guide to obstetrics has been written for the general practitioner, the obstetrician, and the midwife. Its authorship is unique in that it includes the professor of obstetrics at the University College Hospital, London, and a general practitioner in a semirural area. The contents of the book include: (1) obstetric questions that have appeared in the *British Medical Journal* during the past five years, (2) an analysis of midwives' calls in the county of Wilshire, (3) work in the obstetric unit, University College Hospital, and (4) the experiences of the authors. These sources have provided a very practical book that should prove useful to those concerned with obstetrics.

Normal and abnormal obstetrics are covered completely, although operative procedures suitable for the obstetrician are omitted. An excellent chapter on nursing and the practical care of the newborn was contributed by Harold Waller, a pediatrician. Analgesia and anesthesia are discussed by Shila G. Ransom, an anesthetist. The emotional aspects of pregnancy, labor, and the important period of the puerperium are intelligently discussed by a psychiatrist, Elizabeth Tylden. Simple line drawings illustrate the text, and a few well-chosen photographs have been used. Many statistical tables emphasize some of the pertinent discussion. Most chapters contain a few key references. The appendix contains a list of the contents of an obstetric bag, record forms, and useful information.

Although some of the obstetric practices do not conform with those in the United States, most principles advocated are sound. This book provides an excellent guide for those interested in obstetrics, particularly in rural areas where many women are still delivered in their homes.

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QUERIES AND MINOR NOTES

HYPERTENSION

To the Editor.—*What is the prognosis of a 25-year-old white woman who has had known hypertension (140/190 to 180/110 mm. Hg) since the age of 14 and persistent albuminuria, with casts and red cells in the urine on several occasions. The patient recalls an episode of "kidney trouble" at age 8. She is asymptomatic, and there are no positive physical findings except the hypertension. Results of the following tests and procedures have all been within normal limits: complete blood count, determination of nonprotein nitrogen, a Mosenthal test, phenolsulfonphthalein excretion, intravenous pyelogram, chest roentgenogram, and electrocardiogram.*

M.D., California

Answer.—It is important to determine the rate at which the vascular disease is advancing as measured by eyeground examination, heart size, and renal function. The latter preferably should be measured by one of the clearance tests or by maximal ability to concentrate urine (Addis' test). The details of such examinations will be found in Page and Corcoran's "Arterial Hypertension: Its Diagnosis and Treatment" (Yearbook Publishers, Chicago, 1951). While the vascular disease seems to have advanced slowly, the prognosis is still not good. This outlook might be modified if it were found that pyelonephritis was the cause of the malady or that pheochromocytoma was present. It is especially important that these be investigated because of the good results that follow treatment. Although pheochromocytoma is unlikely, it is a remote possibility. Arterial pressure if persistent at high levels may be lowered by systematic and prolonged trials with hydralazine (Apresoline) hydrochloride, hexamethonium, and a low salt diet.

CALCIUM FOR UTERINE INERTIA

To the Editor.—*I recently read an article that mentioned the use of calcium gluconate for the treatment of uterine inertia and for the induction of labor. Please give more information concerning the indications and contraindications for its use.*

J. Harold Schultz, M.D., Minneapolis.

Answer:—It has been shown experimentally (*Proc. Soc. Exper. Biol. & Med.* **38:**550, 1938; *Am. J. Obst. & Gynec.* **37:**194, 1939) that the coordinated activity of the uterus and its reactivity to oxytocic drugs is enhanced by increasing the available calcium. This has been confirmed clinically (*Am. J. Obst. & Gynec.* **41:**948, 1941), and intravenously administered calcium has consequently been found useful in the management of uterine inertia (ibid.), in the induction of labor (ibid. **54:**511, 1947), and as an adjunct to oxytocics in the control of postpartum hemorrhage (ibid. **61:**1087, 1951). In uterine inertia, the primary effect of calcium is to enhance coordination and to increase efficiency of contractions. This effect is observed more consistently when the obstetric conditions are favorable, i. e., an engaged head and a soft partially dilated cervix. No deleterious effects (uterine tetany, fetal distress, or the like) follow the use of calcium. The drug ordinarily employed is calcium gluconate, in a dose of 10 cc. of a 10% solution. In patients who have been selected as favorable for the induction of labor, a hot soap suds enema is given, followed immediately by the administration of calcium. Castor oil or quinine are not employed. If labor does not begin in an hour or so, the membranes are ruptured, and oxytocin (Pitocin) is given intravenously if necessary. In the case of postpartum hemorrhage due to uterine atony, in which the uterus fails to respond to oxytocics, calcium often causes an instant return of uterine tone and dramatic cessation of bleeding. Hardy has reported favorably on the routine use of an oxytocic combined with calcium and concludes that this is preferable to the use of an oxytocic alone.

There are only two instances in which intravenously administered calcium should not be used in obstetric patients: (1) when the patient has been digitalized, since it may cause the heart to stop in systole and (2) when an undelivered patient has received oxytocin, since calcium may potentiate an oxytocic effect that has been established.

IRRITATION FROM ZINC CHLORIDE POWDER

To the Editor:—*An electrician works with a mixture consisting of equal parts of zinc chloride and ammonium chloride powder, and in this work a moderate amount of smoke is produced. The work is done in a confined space, and smoke fills the room. Would occasional exposure to this material, under the above circumstances, be harmful?*

Irving Berlin, M.D., Newport News, Va.

Answer.—Zinc chloride is an active irritant to the skin, eyes, and mucous membranes and is freely soluble in water, tears, and sweat. It is a hygroscopic as well as a caustic agent. Nasal septal perforation may occur. Ammonium chloride is almost innocuous. Since this work is done only occasionally, the exposed workman may be wise to wear temporarily a respirator and may profit by the application of a "barrier" cream to exposed skin surfaces. Although the exact operation is not fully described, the suggestion is made that, if practical, a substitute be found for the zinc chloride.

RAYNAUD'S PHENOMENON

To the Editor:—*Kindly advise the optimum location in this country or Hawaii for a patient who has Raynaud's disease. She is 34 years old and shows progressive involvement of the fingers. Only 4 of the 12 months of the year are warm enough in this locality for her to be relatively symptom-free, despite the use of tolazoline (Priscoline).*

Orin Q. Flint, M.D., Delhi, N. Y.

Answer.—Raynaud's disease is rare. In most patients showing Raynaud's phenomenon a definite cause can be found, such as early scleroderma, the presence of a cervical rib, thromboangiitis, cold agglutination, cryoglobulinemia, or hypometabolism with anemia. Assuming no such cause is present, a steady environmental temperature of not less than 82 F does benefit the patient, but emotional factors, which are notably operative in vasospastic disease, are still active. The anxiety state of the patient must be allayed. Sympathectomy is useful when trophic changes or ulcerations occur.

SCLEROTHERAPY

To the Editor:—*Is sclerotherapy (not electrotherapy) for varicose veins contraindicated in cases of hypertension, cardiac disease, or arteriosclerosis and in cases in which phlebitis was present in the extremities several months previously?*

Charles H. Codelle, M.D., New York.

Answer.—Sclerotherapy for varicose veins is not contraindicated in cases of hypertension and compensated cardiac disease. It is not contraindicated in cases of general arteriosclerosis, but is contraindicated in cases of arteriosclerotic peripheral vascular disease unless the collateral circulation is very adequate. It is not contraindicated when the extremities have exhibited phlebitis several months previously, but such cases should be carefully followed for any indication of phlebitis other than strictly local chemical phlebitis. Prompt institution of anticoagulation therapy is indicated if either spreading superficial phlebitis or deep phlebitis occurs.

The answers here published have been prepared by competent authorities. They do not, however, represent the opinions of any official bodies unless specifically so stated in the reply. Anonymous communications and queries on postal cards cannot be answered. Every letter must contain the writer's name and address, but these will be omitted on request.

BILATERAL SALPINGECTOMY

To the Editor:—*A woman, 26, had a bilateral salpingectomy five years ago for an acute recurrence of an old salpingitis. Both the patient and her husband are anxious to have children. Has a plastic tube been developed that can be sutured close to ovaries and into the uterus with even a remote possibility of successful impregnation?*

L. Nelson Bell, M.D., Asheville, N. C.

Answer.—The plastic tube to which reference is made in this query is obviously the polyethylene tube. Polyethylene has been used in various types of plastic surgery, and in the field of gynecology it has recently been used by a few surgeons in plastic tubal surgery for maintenance of tubal patency after salpingostomy for tubes occluded at the fimbriated ends, or after resection of the occluded inner portions of the tube, with tubouterine anastomosis by one technique or another. While some encouraging results have been reported, it is much too early to appraise the value of the polyethylene tube for such indications. So far as known, there has been little or no experience with it in cases in which both tubes have been previously removed, as in the correspondent's case. Cornual implantation of one or both ovaries would be the plan selected by most gynecologists to give this patient at least a theoretical chance for pregnancy. In general it may be said that gynecologists are not enthusiastic about the results with any of the above-mentioned procedures. Because of this, there are even some who consider them unjustified. The majority, however, believe them to be justified in a few cases, but only after thorough preliminary studies and only after a fair and honest explanation to the couple as to the relative slimness of the chances for success.

MÉNIÈRE'S DISEASE

To the Editor:—*A 69-year-old widow with Ménèire's disease is alone much of the time. Her attacks usually occur two or three years apart. During the past six months, however, she has had two attacks. Is there any drug she could take to help abort an attack when it first begins? This problem is important because once an attack begins she does not have time even to walk to reach help by telephone or medicament before she is completely incapacitated by the extreme vertigo.*

Gerald C. Haskell, M.D., Springfield, Ohio.

Answer.—Diphenhydrinate (Dramamine) is of some benefit in lessening the severity of the subjective vertigo in Ménière's disease, but it in no way prevents or aborts an attack. Surgical destruction of the labyrinth, according to the method of Cawthorne and Day, should be considered in cases of incapacitating vertigo, where the process is confined to one ear with a severe hearing impairment.

BISHYDROXYCOUMARIN THERAPY DURING PREGNANCY

To the Editor:—*Does bishydroxycoumarin (Dicumarol) therapy have any effect on the fetus during pregnancy? A 38-year-old woman, when six months pregnant, was treated with bishydroxycoumarin for 21 days for acute, deep thrombophlebitis. Immediately after delivery, the infant had almost exsanguinating gastrointestinal hemorrhages, which were controlled with massive doses of vitamin K. The infant had a left clubfoot but was otherwise normal.*

Joseph Alvarez, M.D., Oakland, Md.

Answer.—There is an excellent review of the subject of antepartum bishydroxycoumarin therapy by Mansell (*Am. J. Obst. & Gynec.* **64**:155 [July] 1952). Calves newly born of cows fed spoiled sweet clover hay showed hemorrhagic tendencies and were more sensitive to this agent than were the mature animals. Likewise, after therapeutic doses of bishydroxycoumarin were administered to pregnant dogs, the newborn pups showed hemorrhagic tendencies, and none survived unless vitamin K was given. In humans, varying results have been reported. In one report, a newborn baby had cerebral and severe subcutaneous hemorrhages, and in another a baby had hemorrhages of the lungs, thorax, and pericardium; however, in some studies there were no apparent harmful effects in either the mother or the child. Mansell reported on five patients who were treated antepartum with bishydroxycoumarin, and in all these cases the babies were normal. In two cases, therapy was instituted during the most critical part of the life of the fetus, that is, in the first trimester, and yet no deformities of the baby occurred. Mansell concluded, from the fact that none of his five patients aborted or had episodes of uterine bleeding and that no fetal abnormalities occurred, that, when safe levels of prothrombin time (25 to 30 seconds) are maintained during bishydroxycoumarin therapy, there is nothing to fear, so long as vigilance is practiced.

COLD TREATMENT OF SPRAINS

To the Editor:—*Modern first aid treatment of joint injuries, such as sprains, seems to be the application of cold. Bags of cracked ice are seen on the field for immediate application to knees injured in football. Has cold therapy been demonstrated to have any advantage over the time-honored application of heat?*

M.D., California.

Answer.—The physiological basis for the application of cold in acute sprains and strains lies in the vasoconstricting effect of cold, whereas heat tends to cause vasodilatation. In an acute sprain or strain, subcutaneous hemorrhage may occur. Cold is applied in acute cases, with the intent of diminishing circulation and thereby decreasing hemorrhage and edema. Thus heat is usually not applied to a strain or a sprain until 24 to 48 hours after it is incurred. Later, when the tendency toward hemorrhage and edema formation has lessened, the application of heat is indicated in order to increase the blood flow to the area.

WATER CONTAMINATED WITH ENDAMOEBA HISTOLYTICA

To the Editor:—*Where there is risk of water contamination with cysts of Endamoeba histolytica, is boiling of the water the only reliable method of insuring that the water is free of these infectious agents? How long should the water be boiled?*

Paul E. Adolph, M.D., Wheaton, Ill.

Answer.—Boiling the water is the only reliable method of insuring that drinking water is free of the organisms in question. The water should be boiled for at least 15 minutes.

SHAVING THE EYEBROW

To the Editor:—*There has been some debate on our staff concerning the feasibility of shaving the eyebrow in cases of lacerations in that location. Some feel that eyebrows should never be shaved because they might not grow back. Others maintain that for good surgical technique the site of laceration should be shaved and also that the eyebrows always grow back. Would the physician be liable if the eyebrows did fail to grow? Can you help us settle this issue?*

Louis Gianvito, M.D., Staten Island, N. Y.

Answer.—Shaving the eyebrow in cases of lacerations requiring surgical repair is optional with the surgeon and is indicated for surgical cleanliness or to facilitate repair. Shaved eyebrows will be fully restored if not otherwise destroyed.

QUINIDINE

To the Editor:—*Has permanent impairment of hearing been reported following the administration of quinidine?*

John P. Gifford, M.D., Vero Beach, Fla.

Answer.—As far as can be determined, a search of the literature fails to reveal a report of permanent impairment of hearing following the administration of quinidine.

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